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Nos. 90-1657

In the Supreme Court of the United States.

October Term, 1990

COMMONWEALTH OF MASSACHUSETTS
SEACOAST ANTI POLLUTION LEAGUE,
NEW ENGLAND COALITION ON
NUCLEAR POLLUTION, TOWN OF HAMPTON
Petitioners,

v.

NUCLEAR REGULATORY COMMISSION, et al.
Respondents.

Petition for a Writ
of Certiorari to the United
States Court of Appeals
for the District of Columbia

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QUESTION PRESENTED

May the Nuclear Regulatory Commission ("NRC") issue a full power operating license for a nuclear power plant without deciding whether the applicable emergency plans will effectively protect the public in a radiological emergency?

PARTIES TO THE PROCEEDING

The Petitioners, Commonwealth of Massachusetts, Seacoast Anti Pollution League, New England Coalition on Nuclear Pollution and Town of Hampton participated as Intervenors in administrative proceedings before the Nuclear Regulatory Commission and its subsidiary boards, and as appellants before the Court of Appeals.[1/] Respondents, the United States Nuclear Regulatory Commission and the United States of America, were appellees in the Court of Appeals.

1/ The Town of Hampton participated as an Intervenor in the Court of Appeals.

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OPINIONS BELOW

The opinion of the Court of Appeals is reported at 924 F.2d 311 (D.C. Cir. 1991). The opinions of the Nuclear Regulatory Commission are reported at 31 N.R.C. 197 (1990) and 31 N.R.C. 219 (1990). These three opinions are reprinted in full in the Appendices to this brief.

JURISDICTION

The judgment of the Court of Appeals was entered on January 25, 1991. This petition is being filed within 90 days of that judgment. Petitioners invoke the jurisdiction of this Court under 28 U.S.C. § 1254(1).

REGULATION INVOLVED

10 C.F.R. § 50.47(a)(1).

Emergency Plans.

> (a)(1) Except as provided in paragraph (d) of this section, no operating license for a nuclear power reactor will be issued unless a finding is made by NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

STATEMENT OF THE CASE

A. Nature of the Controversy

Petitioners respectfully ask this Court to grant a writ of certiorari to review the judgment of the United States Court of Appeals for the District of Columbia in this case.

Following the nuclear accident at Three Mile Island, the Nuclear Regulatory Commission ("NRC" or "Commission") adopted, in 1980, an emergency planning rule. As the Commission made clear in the rulemaking proceedings, this rule required the NRC to find, as a condition of licensing, that the emergency plans would be effective to protect the public. This finding was to be based upon the nature and extent of the risk at a particular site.

In 1982, the NRC confirmed this interpretation of the emergency planning rule. The Commission represented to the Court of Appeals and to Petitioners that the Seabrook reactor would not operate if the emergency plans were not effective to protect the public, based upon a site-specific review of the public risk.

In licensing the Seabrook plant in 1990, the NRC decided no longer to require a site-specific finding of effectiveness.

The Court of Appeals affirmed the Commission's decision that emergency plans need not actually protect the public in a radiological emergency, but rather need only comply with the 16 generic, non-site-specific standards set forth at 10 C.F.R. § 50.47(b).

As a result of the NRC's new interpretation of the emergency planning rule, any nuclear power plant in this country now may obtain an operating license without having effective emergency plans in place. Petitioners request this Court to grant certiorari, reverse the decision of the Court of Appeals, and order the NRC to consider the evidence proferred by Petitioners and excluded by the Commission from its licensing decision as described below.

B. Summary of Prior Proceedings

On March 1, 1990, the Commission affirmed the exclusion of Petitioners' testimony as irrelevant, that had been offered to show that the Seabrook emergency plans are not effective to protect the public, and that thousands of people would likely die or suffer

injury in the event of a radiological emergency. 31 NRC 197 (1990).

On the same day, the Commission allowed the license for the Seabrook nuclear power plant to become immediately effective and permitted the reactor to proceed to full power operation. 31 NRC 219 (1990).

Petitioners appealed these two decisions to the United States Court of Appeals for the District of Columbia pursuant to section 189 of the Atomic Energy Act, 28 U.S.C. §2342. Section 189 confers jurisdiction on the Court of Appeals to review final NRC orders regarding the grant of operating licenses.

On January 25, 1991, the Court of Appeals affirmed the decisions by the NRC.

REASONS FOR GRANTING THE PETITION

This Case Presents An Important Question of Federal Law Which Has Not Been, But Should Be, Settled By This Court

I. The Court Should Grant the Writ Because of the National Importance of the Public Safety Issues Implicated in the Nuclear Regulatory Commission's Interpretation of Emergency Planning Rule.

This Court should grant this petition because the NRC's new interpretation of the emergency planning rule is flatly inconsistent with the rule as originally promulgated in 1980, and places thousands of members of the public near the Seabrook site, and at any proposed site in this country, at substantial risk. Unless this Court reverses the new NRC interpretation of the rule, no agency or court will ever

determine whether, or to what extent, the emergency plans for Seabrook in particular, and for nuclear power plants in general, will protect the public in an emergency.

The Seabrook Site

The Seabrook nuclear power plant is located in a popular resort area on the New Hampshire seacoast, at the western edge of a tidal marsh, approximately two miles north of the Massachusetts border. 28 NRC 667, 779. Due to the influx of thousands of tourists and seasonal residents during the summer months, the population within the 10 mile Emergency Planning Zone ("EPZ") swells to about 250,000. More than 75,000 beachgoers may crowd the barrier beaches which begin less than 2 miles east of the reactor. See Id. at 802; App. Dir. Test. No. 7 ff Tr. 5622 at

38. There are only 5 access routes from these barrier beaches past the reactor to the mainland, and each is a two lane road. Id. at 779. This large "beach population" has access to very limited shelter, Id. at 775, consisting largely of summer cottages and fast food shops. For many serious accident scenarios for which the NRC itself has determined emergency planning to be necessary, a radioactive plume will reach the beaches before the beach population has time to evacuate.[2/]

2/ NRC/Federal Emergency Management Agency (FEMA) guidance estimates that the start of a major radioactive release, for those accidents within the NRC's planning spectrum, will occur within one half hour to several hours following the onset of accident conditions; and, after release, the radioactivity will travel 5 miles in 1.5 to 2 hours. NUREG 0654 FEMA-REP-1 Rev. 1 at 13, 17. Estimates of the evacuation times for the beach

(footnote continued)

Thousands of beachgoers on the barrier beaches would be trapped, with the reactor -- the source of the risk -- behind them and the ocean before them. According to one of the Seabrook utility's own experts, it would take six or more hours merely to move all the cars from one side of the beach to the other to reach the evacuation route. At that point many evacuees would still be on the barrier beaches, within sight of the reactor and scarcely farther from it than when they first attempted to escape six or more hours before.

Indeed, FEMA--the federal agency responsible for off-site emergency planning for nuclear power plants--has concluded:

(footnote continued)
population at Seabrook range from 7 to 11 hours.

> Therefore, using the standard guidance for the initiation and duration of radiological releases, and the current New Hampshire RERP [radiological emergency response plan] including ETE [evacuation time estimate], it appears that thousands of people could be unable to leave during an accident at Seabrook involving a major release of radioactivity without adequate shelter for as much as the entire duration of that release. Direct Testimony of Edward A. Thomas, Edward A. Tanzman, and Bruce J. Swiren on the New Hampshire Radiological Emergency Response Plan Presented on Behalf of the Federal Emergency Management Agency (September 11, 1987) at 38-39 ("FEMA prefiled testimony").

The Emergency Planning Rule

In response to the nuclear accident at Three Mile Island in 1979, Congress directed the NRC to promulgate emergency planning standards by rule and to require approved emergency plans. As a condition of licensing, these plans would be required to comply with the NRC's new emergency planning standards,

or to provide reasonable assurance that the public health and safety would not be endangered. 1980 Authorization Act, Public L. No. 96-295 §109(b)(1) ("Authorization Act"), App. Vol. II.*

This legislation grew out of Congress's conclusion, reached in light of the Three Mile Island accident, that the NRC had failed to provide for adequate public protection. As the House Committee on Government Operations Report of August 1979 stated:

> the Subcommittee's investigation revealed startling deficiencies in the state plans concurred in by the NRC. There thus is serious doubt whether the standards against which the NRC measures these plans are meaningful - doubt, in fact, whether NRC concurrence really means anything at all from a public health and safety standpoint. House Report No. 96-413, "Emergency Planning Around U.S. Nuclear Power Plants" 96th Cong. 1st Sess. (August 8, 1979) at 35.

* Citations are to attached appendices

The Report noted further:

> Apparently the Chairman and the other members of the Commission have subsequently disabused themselves of the notion that the NRC stamp of approval guarantees an effective plan ... One of the issues being considered in the newly initiated [NRC] rulemaking on emergency planning is "[w]hat constitutes an effective emergency plan for state and local agencies" 44 Fed. Reg. 41483 (July 17, 1979) . . . House Report at 38 n.99.3/

In January 1980, the NRC's own Special Inquiry Group on Three Mile Island released its report, the Rogovin Report. Sharply critical of the NRC's pre-Three Mile Island approach to emergency planning, this Report, too, urged adoption of emergency planning regulations as "an independent form of safeguard."

3/ This House Report was one of the bases for the Commission's December 1979 proposed emergency planning rule, 44 Fed. Reg. 75167, 75169, formally promulgated in 1980.

> [W]e believe that workable evacuation plans are a prerequisite to continued operation of existing and future reactors. Rogovin Report, volume I at 132.

Indeed, the NRC's own Special Inquiry Group recommended that:

> These plans must include sufficient detail to facilitate a reasonably prompt and effective 10-mile evacuation. Id. vol. II, part 3 at 1048.

On July 23, 1980, the NRC adopted emergency planning regulations (see 10 C.F.R. § 50.47(a)(1)) following lengthy discussion of the new regulatory standard for emergency plan approval.

The relevant standard provides:

> (N)o operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. 10 C.F.R. 50.47(a)(1). (emphasis added).

Much of the Commission discussion leading to adoption of the emergency

planning rule focused upon the proposal by Commissioner Bradford, ultimately unanimously adopted by the Commission, to substitute "adequate" in place of "appropriate" protective measures. While not seeking a guarantee of zero risk to the public, Commissioner Bradford explained that he wanted to ensure that no operating license would issue unless there were reasonable assurance that the emergency plans would be effective to protect the public in a radiological emergency:

> [W]hat we are doing here is setting the finding that is necessary for a license or for operation. . . If at that point in time you cannot make the finding that there are effective actions contemplated by the plan and that you have reasonable assurance of being able to do them . . . then I don't think the finding ought to be made. App. Vol III pp. 49-50.

Commissioner Gilinksy concurred:

> It seems to me that reasonable assurance of effective protection adds up to adequate protection. App. Vol. III p. 60.
>
> You want to be sure, reasonably sure that on the basis of this plan action will be taken that will keep people from getting irradiated to any substantial degree. App. Vol. p. 83.
>
> Commissioner Bradford: In other words, what we really want to do is have reasonable assurance that people aren't going to get irradiated to any unhappy degree. App. Vol. III p. 75.4/

Because the Commissioners recognized the importance of their rulemaking discussions to those concerned about a proper interpretation and application of the new requirement that emergency plans provide "adequate" protection, they took the unusual step of adopting the

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4/ The relevant section of the transcript addressing the emergency planning standard is included in the appendix to this petition. App. Vol. III.

transcript of their hearing as official.[5/]

As is clear from the transcript, in choosing the word "adequate" for its new regulation, the Commission meant to assure, based on a site-specific analysis, that no operating license would issue unless the emergency plans would actually be effective in protecting the public in a radiological emergency. In adopting this transcript as official, the Commission essentially added a definitional coda to its new

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5/ App. Vol. III p. 77. "I think we all agree that the weight that is in a single word is enormous, clearly . . . . If we choose adequate, just embedding the word "adequate" isn't going to even begin to describe what we meant by it. Whereas, if the transcript of the meeting underlay the decision that might be of help to some people who are trying to figure out what do we mean." App. Vol. III pp. 76-77.

regulation, making clear that "adequate protective measures" entailed a site-specific finding of effectiveness.

In 1982, in the Seabrook proceedings, the NRC confirmed that the new emergency planning rule required effective emergency plans, and stated that Seabrook would not receive an operating license if evacuation proved infeasible. SAPL v. NRC 690 F.2d 1025, 1030 (D.C. Cir. 1982). The NRC further stated that the feasibility of evacuation would be determined on a site-specific basis. Id. at 1032. Indeed, it was largely through these assurances that the NRC convinced the D.C. Circuit that construction of the Seabrook plant should not be halted due to the site-specific evacuation difficulties associated with the plant.

In 1987, following seven years of study, the Federal Emergency Management Agency ("FEMA") determined that the Seabrook emergency plans do not provide for a feasible evacuation and do not provide reasonable assurance of adequate protection to the public. FEMA prefiled testimony.

Because the NRC had failed to provide for adequate emergency planning, as made clear by the accident at Three Mile Island, the President had ordered that FEMA, not the NRC, act as the expert agency to review offsite emergency plans for nuclear power plants. Appropriately, as part of its 1980 rulemaking, the NRC gave FEMA findings on emergency plans a presumption of validity. 10 C.F.R. 50.47(a)(2). Acting in its role as an

expert, FEMA studied the Seabrook site and concluded that, because of the substantial risk to thousands of beachgoers, the emergency plans were not adequate to protect the public health and safety and Seabrook should not operate.

Thus confronted with the prospect that ineffective emergency plans might block licensing, the NRC--notwithstanding FEMA's expert status, and the presumptive validity accorded its findings under the NRC's own regulations--advised FEMA that there would be a "war" between the agencies if FEMA adhered to its view that the Seabrook plans were not adequate. Hearing Tr. 13027.

FEMA capitulated. After altering its position on the emergency planning

standard, it withdrew its initial testimony (quoted supra), and removed its lead witness from the Seabrook hearings. It has never, however, disavowed the facts establishing that the Seabrook emergency plans are not effective to protect the public in an emergency. Hearing Tr. 12875-78, 14060-61.

Like FEMA, Petitioner Commonwealth of Massachusetts, during administrative hearings on the Seabrook emergency plans, proffered expert testimony (the "Sholly/Beyea testimony") designed to demonstrate that the Seabrook emergency plans are not effective to protect the public. These experts asserted that thousands of people would be severely injured or killed in the event of a Seabrook radiological emergency because

evacuation times for large populations on the Seabrook beaches greatly exceed the warning times for a significant range of the accident categories identified by the NRC, and no adequate sheltering alternative is available to these beach populations.

On the same day it authorized Seabrook to proceed to full power, the NRC affirmed the exclusion of this testimony on the grounds that it was irrelevant, and that an emergency plan can be judged "adequate" without consideration of its effectiveness in protecting the public. The Commission defended the absence of any site-specific judgment of effectiveness with a new interpretation of the emergency planning rule which

eviscerated the rule's (and the NRC's) original intent.

For the first time, the Commission held that the "adequate protection" finding required by 10 C.F.R. § 50.47(a)(1) as a condition of licensing flows automatically from a finding that an emergency plan complies with the generic standards ("(b) standards") set forth at Section 50.47(b)(1)-(16).[6/] As a result, the

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6/ The (b) standards identify general requirements for an emergency plan, but do not establish, by themselves, any particular standard of effectiveness against which to measure compliance with these standards. For example, the generic requirement of (b)(10) for a "range of protective actions" for the public could be satisfied by a 24-hour evacuation or by sheltering in a plastic bag. Absent a judgment of effectiveness, compliance with the "(b) standards" does not provide reasonable assurance of any level of public protection.

NRC reasoned, the Sholly/Beyea testimony and the Petitioners' demand that the NRC assess the actual effectiveness of the Seabrook plans ignore the fact that "adequacy" now is legally established--at Seabrook as at every other site--not by a case-by-case assessment of the effectiveness of the emergency plans but by a best efforts compliance with generic planning standards. Site-specific risk to the public safety, no matter how great, is thus now irrelevant to licensing. This contradicts the position taken by the NRC both at its initial rulemaking proceeding in 1980 and before the D.C. Circuit, in this very proceeding, in 1982. See SAPL, supra, at 1032.

It is also important to note that the particular requirements at issue--the (b) standards set forth in Section 50.47--are taken almost verbatim from an NRC Guidance (NUREG-75/111) which dates back to 1974. This guidance identified 16 planning objectives and in virtually every instance the 1974 "objective" is functionally equivalent, and indeed sometimes identical, to the corresponding 1980 (b) standard. NUREG-75/111 at vi, 1-36. Thus, these were essentially the same standards in existence at the time of the Three Mile accident, and the same standards the House Committee on Government Operations Report had in mind when it expressed "serious doubt whether the standards against which the NRC measures these plans . . . mean[] anything at all from

a public health and safety standpoint." House Report at 35, supra.

The Commission's suggestion that the (b) standards were based on the 1980 rulemaking record, stemmed from a response to TMI or embodied its lessons in some fashion, reveals a stunning absence of institutional memory. In fact, the (b) standards, were never proposed, reviewed, or adopted as the benchmark for effective emergency planning.

In deferring to the NRC's new interpretation of the emergency planning rule, the Court of Appeals concluded that the NRC's present embrace of the generic (b) standards to determine plan adequacy was not "contradicted" by the rulemaking transcript. App. Vol. I. p. 76. The Commission in 1980, however,

did not decide that generic emergency planning could never be utilized in any form, because the subject was never discussed at all. Not a single Commissioner proposed or addressed generic planning as a means reasonably to assure effective plans or to satisfy the Congressional mandate that the NRC establish planning standards so that the public will not be endangered by plant operation. Significantly, the (b) standards, now exclusively relied on by the NRC to assure plan adequacy, were already part of the proposed rule when the Commissioners met in 1980 to discuss the need to assure effective planning. App. Vol. III pp. 102-109. Yet the Commissioners never mentioned them. In light of this, and the Commission's alternative and exclusive focus during

the rulemaking on a case by case assessment of effectiveness, it is clear that the Commission never intended that compliance with the generic (b) standards without some further judgment of effectiveness would be sufficient to provide the adequate protective measures mandated by section (a)(1).

Nevertheless, the Court of Appeals held that the Commission's new interpretation of the emergency planning rule was lawful and did not require a case by case effectiveness assessment. App. Vol. I p. 58. The Court deferred to the NRC's new interpretation, issued by adjudication, which now allows a full power license to issue if an applicant's compliance with the NRC's generic planning standards is merely "more than pro forma." App. Vol. I p 87.

According to the Court, the NRC may find that the generic standards have been satisfied if planners have "given careful and adequate consideration" to planning strategies that can be implemented to best satisfy the planning standards, App. Vol. p. 81, regardless of the effectiveness of these strategies to protect the public.

Therefore, although nominally requiring "more than pro forma" compliance with the generic (b) standards, App. Vol. I p. 80, the Court of Appeals approved a new rule interpretation that fundamentally contradicts the intent of the 1980 rulemaking. In effect, the Court permitted the NRC, in an adjudicatory context, to repeal the 1980 rule and to articulate and apply a new rule. The

Court thus granted great deference to the NRC to eliminate effective plans as a condition of licensing and to disregard the site-specific risk at Seabrook.

II. Under the Proper Interpretation the Ruling of the Court Below and the Nuclear Regulatory Commission's Decision to Issue a Full Power Operating License Can Not Stand

It is fundamental that an agency must obey its own rules. Arizona Grocery v. Atchison Ry. 284 U.S. 370 (1932). Having acted in 1980 in its rulemaking capacity to require effective emergency plans as a condition of licensing, the NRC, when acting in its adjudicatory role in 1990, was "bound to recognize the validity of the rule of conduct prescribed by it and not to repeal its own enactment with

restrospective effect." Id. at 389.[7/]

The rulemaking transcript makes abundantly clear--and the NRC in SAPL confirmed--that "adequate" protection under section (a)(1) requires a site-specific assessment of effectiveness. The NRC never performed this assessment for Seabrook. App. Vol. I p. 75.

7/ The Court of Appeals notes the NRC's suggestion that Petitioners could have applied for a waiver of the new generic rule "requesting more stringent planning requirements for Seabrook." Id. at 330. After more than a decade of litigation, Petitioners instead seek to have the emergency planning rule applied -- to assure effective plans -- as it was intended when the rule was adopted in 1980. Also, Petitioners could not have sought a waiver of a rule they did not know existed; the NRC announced its new interpretation of the emergency planning rule on the very day it authorized Seabrook to proceed to full power operation.

In affirming the NRC's licensing decision, the Court of Appeals therefore gave undeserved deference to the Commission's new interpretation of the emergency planning rule. INS v. Cardoza-Fonseca, 480 U.S. 421, 446 n. 30 (1987) (agency interpretation that conflicts with earlier interpretations is "entitled to considerably less deference"); See also Batterton v. Francis, 432 U.S. 416, 425 n.9 (1977) (degree of deference to agency interpretation of regulation varies according to such factors as timing and consistency).

To license Seabrook, the NRC literally changed the rules of the game at the last minute. Under the NRC's generic (b) standards no level of public risk is too great to prevent licensing,

nor is it even relevant to the licensing proceeding. The new position of the NRC cannot be allowed to stand. Public safety is too important.

CONCLUSION

For the foregoing reasons, Petitioners respectfully request that the petition for a writ of certiorari should be granted.

Respectfully submitted,

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EDITOR'S NOTE:

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Appendix to Petition
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Volume I

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COMMONWEALTH OF MASSACHUSETTS, et al., Petitioners,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION and the United States of America, Respondents,

Public Service Company of New Hampshire, Towns or Cities of Ashburnham, et al., Intervenors.

Nos. 89-1306, 90-1132 and 90-1218.

United States Court of Appeals, District of Columbia Circuit.

Argued Sept. 18, 1990.

Decided Jan. 25, 1991.

Petitions for review of Nuclear Regulatory Commission's (NRC) licensing

of nuclear power plant were consolidated. The Court of Appeals, Buckley, Circuit Judge, held that: (1) NRC's interpretation of emergency response plan was not plainly inconsistent with regulatory language; (2) agency interpretation was not contrary to mandate of Authorization Act; and (3) remand was required for determination of whether appeal board properly considered potential materiality of allegations concerning on-site weaknesses identified in full participation exercise.

Petitions denied in part and granted in part.

Before BUCKLEY, WILLIAMS and RANDOLPH, Circuit Judges.

Opinion for the Court filed by Circuit Judge BUCKLEY.

BUCKLEY, Circuit Judge:

This action consolidates three petitions for review of the Nuclear Regulatory Commission's licensing of Seabrook Nuclear Power Station. Petitioners are the Commonwealth of Massachusetts, the Seacoast Anti-Pollution League ("SAPL"), and the New England Coalition on Nuclear Pollution ("NECNP"), all intervenors in the agency's licensing proceedings. Public Service Company of New Hampshire ("PSNH") has intervened here as leader of the consortium of utilities that owns and operates Seabrook.

In No. 90-1132, petitioners raise three issues concerning the Commission's authorization of the plant's full power license. They challenge the Commission's decision to allow

authorization of the full power license despite a prior agency ruling requiring further consideration of Seabrook's offsite emergency response plans. They also challenge a ruling excluding from the licensing record evidence about the potential consequences of hypothetical radiological emergencies at Seabrook. Finally, they challenge the Commission's denial of a waiver of regulations exempting PSNH, as a regulated utility, from the requirement of demonstrating financial qualifications.

In No. 89-1306, petitioners raise two issues relating to the plant's low power licensing. They claim the Commission misconstrued the scope of a contention they had filed concerning the possible fouling of Seabrook's cooling system, and they claim the Commission

improperly authorized the low power license without conducting an adjudicatory hearing on potential flaws in Seabrook's onsite emergency plan, allegedly revealed in a June 1988 emergency exercise. The third consolidated petition, No. 90-1218, was filed as a precaution to preserve petitioner's opportunity for appellate review of the full power issues; it simply duplicates No. 90-1132.

We deny in their entirety the petitions in Nos. 90-1132 and 90-1218 for review of the full power license issues. In No. 89-1306, we deny the petition for review of the Commission's action concerning the cooling system contention; we grant review, however, of the decision concerning the exercise contention, and we remand to the agency

for further explanation of its reasoning on this issue. In the interim, we will allow the operating licenses for Seabrook to remain effective.

I. BACKGROUND

A. Regulatory Overview

Under section 182(a) of the Atomic Energy Act of 1954 ("AEA"), as amended, 42 U.S.C. §§ 2011-2296 (1988), the Nuclear Regulatory Commission ("NRC: or "Commission") is authorized to approve the operation of nuclear power plants that the agency finds "will provide adequate protection to the health and safety of the public." 42 U.S.C. § 2232(a). See also 10 C.F.R. § 50.57(a)(3) (1990). In accordance with the notice and hearing requirements of section 189 of the AEA, 42 U.S.C. §§ 2239, the procedural requirements of

the Administrative Procedure Act, 5 U.S.C. §§ 551-559, and the procedures set forth in its own regulations, 10 C.F.R. Part 2, the NRC conducts formal adjudicatory hearings on all contested issues, called "contentions," that are raised by interested parties in response to applications for a nuclear plant operating license. Licensing hearings are conducted by a three-member Atomic Safety and Licensing Board ("Licensing Board") whose duties are to admit and decide contentions and, if the contentions are resolved in the applicant's favor, to authorize the requested license. See 10 C.F.R. §§ 2.750, 2.772. Appeals from Licensing Board decisions are heard by a panel of the Atomic Safety and Licensing Appeal Board ("Appeal Board"), id. §§ 2.785, 2.787, and the Commission may, in its discretion, undertake further review, id. § 2.786.

A Licensing Board authorization of a low power testing license, which permits operation of a plant at up to five percent of rated power, becomes immediately effective notwithstanding any appeals taken within the NRC. Id. § 2.764(a),(f). Such authorizations are subject to motions for stay, and the Commission reserves the power to step in at any time. Id. § 2.764(f)(2). Authorization of an operating license that permits more than five percent power operations does not become effective until the Commission itself has conducted an "immediate effectiveness" review of the Licensing Board's initial decision. Id. § 2.764(f)(2)(i), (ii). After a positive immediate effectiveness review, the authorization becomes effective without prejudice to any

pending administrative appeal of the Licensing Board's decision or any further motions or formal adjudication. Id. § 2.764(g).

An applicant for a nuclear plant operating license must provide detailed plans for coping with radiological emergencies on the plant site and for ensuring offsite emergency preparedness. See id. § 50.34(b)(6)(v); id. Part 50, Appendix E.III, .IV. The NRC requires the applicant to submit emergency response plans prepared by state and local governments whose jurisdictions lie within designated emergency planning zones ("EPZs") surrounding the plant. Id. § 50.33(g). The "plume exposure pathway" EPZ is generally a circular zone with a radius of approximately ten miles; the

"ingestion pathway" EPZ is a larger circle measuring approximately fifty miles in radius. The exact configurations of the EPZs depend on the particular characteristics of each site. Id. §§ 50.33(g), 50.47(c)(2). Offsite planning primarily focuses on protective measures for people within the plume exposure pathway. EPZ. See, e.g., id. § 50.47(b)(5), (10). In the ingestion pathway EPZ, the focus is on protecting the food sources from fallout. See id. §§ 50.33(g), 50.47(c)(2).

The NRC will not authorize an operating license unless it finds "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." Id. § 50.47(a)(1). The

NRC's findings on the adequacy of protective measures are based on a determination by the Federal Emergency Management Agency ("FEMA") that the state and local response plans for the offsite EPZs are adequate and can be implemented, and on an NRC assessment of the adequacy and implementability of the applicant's onsite emergency plans. Id. § 50.47(a)(2). A FEMA finding constitutes a rebuttable presumption on the adequacy of an offsite plan. Id. Low power licensing requires the approval of an onsite emergency plan but does not require any assessment of offsite emergency preparedness. Id. § 50.47(d).

Paragraph (b) of the emergency planning regulation sets forth sixteen specific standards that response plans

must meet. Id. § 50.47(b).[1]Ö

Paragraphs (a) and (b) of the emergency planning regulation set out in their entirety in the accompanying Appendix.
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Failure to meet these standards "may result in the Commission[s] declining to issue an operating license," but the applicant will have the opportunity to demonstrate that the license should still issue where, inter alia, "deficiencies in the plans are not significant for the plant in question." Id. § 50.47(c)(1). Further detailed guidance for emergency planning is contained in 10 C.F.R. Part 50, Appendix E.IV ("Content of Emergency Plans") and in emergency preparedness guidelines developed and published jointly by FEMA and the NRC, NRC & FEMA, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans

and Preparedness in Support of Nuclear Power Plants, NUREG-0654/FEMA-REP-1 (rev. 1 Nov. 1980) (NUREG-0654"). Where state or local governments in the EPZs refuse to participate in emergency planning, the applicant must substitute its own offsite response plan, and such a "utility plan" is also evaluated against the paragraph (b) standards. 10 C.F.R. § 50.47(c)(1)(iii).

B. Full Power Licensing Proceedings

The full power licensing issues before the court principally involve the Licensing Board's approval of Seabrook's offsite emergency plans. The New Hampshire Radiological Emergency Response Plan Revision 2 ("NH Plan") is a state plan covering the New Hampshire communities within the plume exposure pathway EPZ. The Seabrook Plan for

Massachusetts Communities ("Utilities Plan") is a plan that was developed by PSNH and the other owner-utilities pursuant to 10 C.F.R. § 50.47(c) after Massachusetts and the Massachusetts communities within the EPZ declined to participate in emergency planning.

During adjudicatory hearings on the adequacy of the NH Plan, petitioner Massachusetts proffered evidence of potential radiation doses that would result from specific hypothetical accidents at Seabrook. The evidence was intended to support petitioners' contentions that the NH Plan could not adequately protect the large numbers of persons who visit the ocean beaches near Seabrook on summer weekends. The evidence consisted of written testimony from four expert witnesses: Steven C.

Sholly, Dr. Jan Beyea, Dr. Gordon Thompson, and Dr. Jennifer Leaning (collectively "Sholly/Beyea testimony"). Joint Appendix ("JA") at 160. (Unless indicated otherwise, citations to the joint appendix refer to case no. 90-1132.

Mr. Sholly's testimony was offered to explain that the generic emergency preparedness guidelines on which section 50.47 rests were developed on the basis of dose-distance assessments performed for a range of accident scenarios. JA at 171. Dr. Beyea would then predict the level of protection the NH Plan would actually provide to the peak summertime beach population in terms of the potential radiation doses that could result from various accident scenarios. Id. at 172. Dr. Thompson's testimony

proposed to address the likelihood and characteristics of a catastrophic atmospheric release of radiation at Seabrook. Id. at 174. Finally, Dr. Learning was to describe the health effects that such accidents would have on the beach population. Id. The stated premise of these experts' testimony was that a site-specific examination of the potential dose consequences of various accidents would illuminate the effectiveness of the offsite emergency measures planned. Id. at 187.

The Licensing Board refused to admit the Sholly/Beyea testimony on the ground that such evidence is not relevant to the review of emergency response plans under section 50.47. JA at 144-59. On interlocutory appeal, the Appeal Board certified to the Commission the question whether the evidence should be admitted in light of a prior Commission opinion,

Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), CLI-86-13, 24 N.R.C. 22, 30 (1986) ("Shoreham") in which the Commission had stayed that a goal of emergency planning is "reasonable and feasible dose reduction under the circumstances." See Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2, ALAB-922, 30 N.R.C. 247, 255-59 (1989).

In the meantime, on December 30, 1988, the Licensing Board issued a 141-page partial initial decision approving the NH Plan. Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), LBP-88-32, 28 N.R.C. 667 (1988).[+/Ö]

Each of the NRC rulings related to Seabrook bears the caption "Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2)," followed by its respective decision number, with the prefix "LBP" denoting the Licensing

Board, "ALAB," the Appeal Board, and "CLI," the Commission. For ease and clarity, we will simply refer to all of the Seabrook rulings by their decision numbers.
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The Board made findings on twenty-six litigated contentions relating to eight general aspects of the plan. See id. at 669-70. While the Board found it necessary to make four specific revisions of the plan and to retain jurisdiction over a subissue relating to one of those revisions, it concluded that, subject to later verification that the necessary revisions had been made, the plan met the requirements of 10 C.F.R. § 50.47(b) and Part 50, Appendix E, and reasonably assured that adequate protective measures were available for the New Hampshire portion of the EPZ. See 28 N.R.C. at 804-05.

Petitioners appealed this decision while hearings continued on other segments of offsite emergency planning. On November 7, 1989, the Appeal Board handed down an opinion reviewing four of the eight categories of issues resolved in LBP-88-32. ALAB-924, 30 N.R.C. 331 (1989). The Appeal Board generally affirmed the Licensing Board's findings and conclusions but reversed and remanded four issues "for further action consistent with this opinion." Id. at 373. The remanded issues involved the possible need for letters of agreement with school personnel involved in evacuating schoolchildren; the accuracy of a survey intended to identify persons with special transportation needs; the accuracy of evacuation time assumptions for advanced life support patients in

hospitals, nursing homes, and other special facilities; and the need for further implementing details in the plan for emergencies which sheltering would be preferred protective action for the beach population. Id. The Appeal Board did not specify that its opinion precluded issuance of a full power license but did note that the lack of implementing details fo beach sheltering "is a deficiency that must be remedied." Id. at 372 n. 194

Two days after ALAB-924, on November 9, 1989, the Licensing Board issued a 281-page partial initial decision. The decision addressed sixty-two litigated contentions proferred by petitioners relating to the Utilities Plan and a 1988 FEMA-graded, full participation exercise of Seabrook's emergency plans

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(such an exercise being a prerequisite to full power licensing under 10 C.F.R. Part 50, Appendix E.IV.F.1). See LBP-89-32, 30 N.R.C. 375, 380-84 (1989). The Board concluded that the 1988 graded exercise was adequate in scope and revealed no fundamental flaw in the Utilities Plan or the NH Plan; that the 1988 exercise demonstrated that the NH Plan was adequate and implementable; and that the Utilities Plan satisfied the requirements of section 50.47(b) and Appendix E, and reasonably assured that adequate protective measures would be available for the Massachusetts portion of EPZ. See 30 N.R.C. at 650. Having thus resolved all remaining licesening issues in the applicant's favor (other than the four remanded by the Appeal

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Board), the Licensing Board authorized a full power license for Seabrook. Id. at 651. The Board took note of the four remanded issues and promised to provide a supplemental decision explaining why ALAB-924 did not preclude the immediate issuance of an operating license. Id. at 651 & n. 87.

Petitioners moved the Appeal Board to vacate authorization of the full power license, but the Appeal Board refused to act before receiving the Licensing Board's supplemental opinion. JA at 1048. Subsequently, the Commission decided sua sponte to assume jurisdiction over petitioner's motion to vacate; the Commission reasoned that because it was already scheduled to decide the immediate effectiveness of LBP-89-32 and the Sholly/Beyea

evidentiary question, its resolution of the motion to vacate would serve the interests of efficiency. JA at 1051. Thereafter, in its supplemental decision of November 20, 1989, the Licensing board analyzed the four remanded issues in light of its familiarity with the extensive factual record and concluded that none of the deficiencies was sufficiently significant to preclude licensing and that any further action concerning such issues could be conducted through post-licensing hearings. LBP-89-33, 30 N.R.C. 656 (1989).

On March 1, 1990, the Commission handed down its decision on the certified question concerning the Sholly/Beyea testimony. CLI-90-2, 31 N.R.C. 197 (1990). The Commission

upheld the Licensing Board's ruling that the testimony was inadmissible, holding that "judgments on the adequacy of emergency planning are to be based on conformity with the sixteen planning standards set forth in 10 C.F.R. § 50.47.(b)" Id. at 213. Relying on its own guidelines and rulemaking statements supporting section 50.47 and on prior adjudicatory decisions, including its Shoreham opinion, the Commission reasoned that

> consideration of specific accident sequences and their potential dose consequences has been rendered unnecessary by the promulgation of generic guidance that incorporates and synthesizes data on a range of accidents and their consequences. Thus the seeming anomaly of excluding proferred evidence on dose consequences, where the objective of the inquiry is to reduce dose consequences, is in fact no anomaly at all. For it is by applying the generic guidance of the regulation's

> sixteen standards to the review of individual emergency plans - not by attempting to predict the effects of particular hypothetical accidents occurring under particular hypothetical conditions of weather, time of year, and time of day-that the NRC satisfies itself that the goal of achieving dose reductions is met.

Id. at 215.

On the same day it decided this evidentiary question, the Commission issued a ruling denying petitioners' motion to vacate and allowing the immediate effectiveness and the Licensing Board's decisions. CLI-90-3, 31 N.R.C. 219 (1990). On the motion to vacate, the Commission concluded that the Licensing Board had not violated any "clear, nondiscretionary duty" in authorizing the license. Id. at 229-31. The Commission reasoned that "nothing in ALAB-924 by its terms precludes a full power authorization";

that no NRC rule or decision "suggests . . . [a] duty on the part of the Licensing Board to delay full power authorization pending completion of remand proceedings"; and that, "most important for this case," the Licensing Board's authority to act despite a remand from the Appeal Board was properly supported by 10 C.F.R. § 50.47(c)(1). 31 N.R.C. at 230. While agreeing that the remanded issues were remanded probative of compliance with section 50.47(b), and thus would be relevant to licensing, the Commission noted that they were "not necessarily material to license issuance because, under § 50.47(c) [some] compliance issues may not be significant and therefore need not be resolved prior to license

issuance." Id. at 230-31 (emphasis added).

In its immediate effectiveness review, the Commission found that the Licensing Board had acted reasonably in determining that the remanded issues were not significant and that this determination did not preclude the immediate issuance of a license. See id. at 232-48. The Commission further held that the Licensing Board's findings and conclusions in LBP-89-32 on the adequacy of the Utilities Plan and the FEMA-graded exercise not yet reviewed by the Appeal Board, also met the immediate effectiveness criteria set forth in 10 C.F.R. § 2.764(f)(2). See id. at 248-54. As a result, the Commission allowed the full power license to take effect, "with , however, the recognition

that administrative appeal processes (in which later review of the Licensing Board's decision[s] will take place) will continue." Id. at 225.

On March 15, 1990, the full power license issued. JA at 752. This court denied a stay pending appeal, and Seabrook thereafter began its ascension to full power. Administrative appeals and further adjudication before the Licensing Board are ongoing.

The last NRC action petitioners ask us to review in connection with the full power proceedings is the Commission's denial of their request for a waiver of the financial qualification regulation. CLI-89-20, 30 N.R.C. 231 (1989). The NRC exempts regulated electric utilities, like PSNH, from its general rule requiring license applicants to

demonstrate financial qualification. 10 C.F.R. §§ 50.33(f), 50.40(b). The rationale for the exemption is that a regulated utility usually can recover through its rate base the costs of safely operating a nuclear facility. 49 Fed. Reg. 35,747, 35,748 (1984). Massachusetts and SAPL argued that a waiver was justified pursuant to 10 C.F.R. § 2.758(b) because the rationale for the exemption had been undercut by "special circumstances," namely, the fact that PSNH had filed bankruptcy. JA at 397-537. The Licensing Board ruled that petitioners failed to make a prima facie showing for a waiver, LBP-89-10 29 N.R.C. 297 (1989), but the Appeal Board certified the issue to the Commission, ALAB-920, 30 N.R.C. 121 (1989).

Petitioners relied on a prior opinion rendered during Seabrook's low power proceedings in which the Commission had found that the purpose of the exemption was undermined by the combination of PSNH's bankruptcy and New Hampshire's "antiCWIP" statute (which prohibits a utility from increasing customers' rates to recover the costs of construction work in progress). See CLI-88-10, 28 N.R.C. 573, 592-98 (1988). In denying the later petition, the Commission held that its low power decision did not support a waiver of the financial qualification exemption during full power operations because "[n]othing in the anti-CWIP law . . . prohibits including Seabrook's operating costs in the rate base when the plant is operating to serve the public, as it

will be fully authorized to do if it receives its full power license." 30 N.R.C. at 241 (emphasis in original). The Commission also held that the exemption would not be undercut by a normal delay in cost recovery imposed by the New Hampshire ratesetting process, id., and that even if the rule were undercut by exceptional circumstances, petitioners had failed to show that a significant safety problem would result, id. at 243-44.

C. Low Power Licensing Proceedings

A low power license permits an applicant to initial fuel loading and low-level testing before ascension to full power operation. Because certain requirements for full power licensing, such as adequate offsite emergency plans, are not relevant to low power

operation, the NRC may, upon motion by the applicant, issue a low power testing license prior to the authorization of a full power license, provided that all contested issues material to low power operations have been resolved in the applicant's favor. See 10 C.F.R. § 50.57(c). The Licensing Board assigned the adjudication of Seabrook's licensing issues to two panels; one of them held hearings on the offsite emergency planning contentions discussed above, and the second adjudicated all contentions relevant to low power licensing, including all onsite safety and emergency planning issues. See LBP-87-10, 25 N.R.C. 177, 181 (1987). Petitioners seek review of the NRC's action concerning two issues raised in the low power proceedings.

In June 1982, petitioner NECNP submitted a contention suggesting that Seabrook's ocean-water cooling system could fail because of the "accumulation of mollusks, other aquatic organisms, and debris." JA, No. 89-1306, at 1. As its basis for the contention, NECNP pointed to an NRC notice in the Federal Register discussing the problem of cooling system blockage from sea animals like clams and mussels. Id. at 2-3; see 47 Fed.Reg. 21,653 (1982). The Licensing Board refused to admit the contention. Several years later, however, the Appeal Board reversed and remanded the contention. ALAB-875, 26 N.R.C. 251, 261-63 (1987).

During the course of subsequent proceedings, NECNP sought to compel discovery of Seabrook's ability to

detect and control "microbiologically induced corrosion" in its cooling system. The Licensing Board denied NECNP's motion to compel, ruling that NECNP's cooling system contention was limited to the accumulation of marine organisms and debris and did not encompass the side-effects of microbiological activity. JA, No. 89-1306, at 472-79. NECNP sought reconsideration, submitting an expert affidavit expressing the view that microbiologically induced corrosion was within the scope of the 1982 contention. Id. at 90. The Licensing Board denied the motion to reconsider on the ground that expert opinions were not relevant to the question. Id. at 491-96. NECNP thereafter informed the Board that it no longer wished to

litigate the issue of blockage by "macro"-organisms, id. at 158-59, and the contention was subsequently dismissed as abandoned, id. at 499-501.

The Appeal Board accepted an untimely appeal of the Licensing Board's ruling on the scope of the cooling system contention, ALAB-894, 27 N.R.C. 632 (1988), and later affirmed the ruling, ALAB-899, 28 N.R.C. 93 (1988). Based on the terms and the stated basis of contention, the Appeal Board concluded that the contention addressed "blockage" of coolant flow to safety-related systems, not "leakage" caused by corrosion. 28 N.R.C. at 96-99. The Appeal Board observed that instead of raising this new issue within the terms of the old contention, NECNP should have proffered a late-filed contention. Id.

at 99. The Commission denied review, and the Appeal Board's decision became final agency action.

The second low power issue raised by petitioners relates to the June 1988 full participation exercise of Seabrook's emergency plans. The NRC inspection team overseeing the onsite portion of the exercise issued a report on July 6, 1988, which concluded that "[n]o violations were identified" during the drill and that the "response actions were adequate to provide protective measures for the health and safety of the public." JA, No. 89-1306, at 220. The report detailed various strengths observed in the exercise and also discussed some "weaknesses," including certain actions of onsite plant personnel. Id. at 223-24. In the

opinion of the inspection team, five weaknesses indicated that the plant's Technical Support Center ("TSC") and Emergency Operations Faciltiy ("EOF") staffs displayed questionable engineering judgment or failed to recognized or address technical concerns:

> Neither the EOF [n]or TSC staff questioned a release of greater than 7000 curies per second with only clad damage and no core recovery;
> Efforts continued to restore the Emergency Feedwater Pump after a large break LOCA [Loss of Coolant Accident];
> A questionable fix for the Containment Building Spray system;
> A lack of effort to locate and isolate the release path; and
> No effort was noted to blowdown Steam Generators to lessen the heat load in the containment.

Id. at 224.

On September 16, 1988, petitioners filed a motion requesting that the Board

admit a new contention, or in the alternative reopen the record, based on their allegation that the June exercise had revealed fundamental deficencies in the onsite emergency plan. Id. at 241. On September 28, the NRC staff issued a follow-up inspection report based on further investigation, which concluded that the actions of the plant personnel had been acceptable after all and that the matter of the weaknesses was "considered closed." Id. at 274, 286-88.

The Licensing Board denied petitioners' motion on the grounds that petitioners had failed to satisfy the requirements for a late-filed contention, set forth in 10 C.F.R. § 2.714(a)(1), and that the motion did not meet the criteria for reopening a closed hearing record, id. § 2.734. LBP-89-4,

29 N.R.C. 62, 68-86 (1989). The Appeal Board affirmed, first, on the ground that the Licensing Board did not abuse its discretion in determining that the motion failed to meet the late-filed contention requirements; and, second, on the "independent basis" that even if the motion met those criteria, the proposed exercise contention must be rejected under Commission case law because it did not involve a "fundamental flaw" in the emergency plan. ALAB-918, 29 N.R.C. 473, 480-86 (1989). The Appeal Board did not reach the issue of whether the motion satisfied the criteria for reopening a closed record. Id. at 485. The Commission declined further review; thus the Appeal Board's ruling became final agency action.

After various delays, the Commission ultimately granted a low power testing license for Seabrook in December 1988, with two conditions: The applicants had

to provide reasonable assurance that sufficient funds would be available to cover the costs of decommissioning the plant should a full power license be denied, and petitioners' then-pending motion to litigate the onsite exercise contention had to be resolved. See CLI-88-10, 28 N.R.C. 573 (1988). With the fulfillment of these conditions, the Commission lifted its stay of the license in May 1989. CLI-89-8 29 N.R.C. 399 (1989). After this court refused to petitioners' subsequent request for a stay, Seabrook began low power operations.

II. DISCUSSION

A. Jurisdiction

[1,2] At the outset, we must sort out the reviewability of the various agency decisions implicated in these

petitions. This court has jurisdiction over all final orders of the NRC that are made reviewable by section 189 of the AEA. 28 U.S.C. § 2342. Section 189 provides for judicial review of "[a]ny final order entered in any proceeding," inter alia, "for the granting, suspending, revoking, or amending of any license." 42 U.S.C. § 2239(a)(b). Generally, under these statutes, an NRC order is final if it disposes of all issues as to all parties in the licensing proceeding, that is, if it consummates the agency's decision-making process and results in granting, denying, suspending, revoking, or amending a license. See NRDC, Inc. v. NRC, 680 F.2d 810, 815 (D.C.Cir. 1982). According to this strict rule of finality, we plainly have jurisdiction to review the low power issues raised in

No. 89-1306 because the Commission has issued a final order, CLI-88-10, granting the low power testing license. The full power petitions, however, are another matter.

[3,4] In our opinion, the Commission's immediate effectiveness ruling, CLI-90-3, represents a final agency order that is reviewable by this court. As shown by our decision in Oystershell Alliance v. NRC, 800 F.2d 1201 (D.C.Cir.1986), we will review an immediate effectiveness decison even though, under the procedures set forth in 10 C.F.R. § 2.764, the Commission's decision is not a final adjudication on the merits and is without prejudice to any pending administrative appeal or subsequent adjudication. See 800 F.2d at 1206-07.

Such review is appropriate because it will not disrupt the orderly process of adjudication within the agency and because significant legal consequences flow from the Commission's action. See Port of Boston Marine Terminal Ass'n v. Rederiaktiebolaget Transatlantic, 400 U.S. 62, 71, 91 S.Ct. 203, 209, 27 L.Ed.2d 203 (1970). We also believe it appropriate in this case to review that portion of CLI-90-3 in which the Commission refused to vacate the Licensing Board's authorization of the full power license, 31 N.R.C. at 225-31, because that ruling was a necessary predicate to immediate effectiveness.

[5] Of course, our examination of CLI-90-3 is exceedingly limited. In an immediate effectiveness review, the Commission determines whether it is in

the public interest to lift the administrative stay that automatically attaches to an initial authorization of a full power license. This determination is based on a weighing of equitable considerations: "gravity of the substantive issue, the likelihood that it has been resolved incorrectly below, the degree to which correct resolution by the issue would be prejudiced by operation pending review, and other relevant public interest factors." 10 C.F.R. § 2.764(f)(2)(i). Thus, our review of CLI-90-3 is akin to the review of a district court's grant of a preliminary injunction, see, e.g., National Wildlife Fed'n v. Burford, 835 F.2d 305, 319 (D.C.Cir.1987), and is properly confined to determining whether the Commission abused its discretion,

see Oystershell Alliance, 800 F.2d at 1206.

[6] We reject petioners' argument that immediate effectiveness renders the Licensing Board's decisions and all related "intermediate, procedural or preliminary non-final actions or rulings" of the NRC reviewable by this court under 5 U.S.C. § 704. Petitioner's Motion Seeking Clarifaction of Appellate Jurisdiction, filed Apr. 30, 1990, at 10. We already decided in a related petition that LBP-89-32 is not reviewable even after CLI-90-3. Order, Massachusetts v. NRC, No. 89-1743 (D.C. Cir. filed Mar. 7, 1990) (per curiam). Furthermore, while section 704 authorizes judicial review of preliminary or intermediate rulings "on the review of the final agency action,"

5 U.S.C. § 704, it does not give us plenary jurisdiction over the entire Seabrook licensing litigation. The only "final agency action" at issue here is an order allowing the plant to operate at full power pending the Commission's further review of the licensing issues. This order is not a "final decision" by the Commission pursuant to 10 C.F.R. § 2.770. Section 704 authorizes us to review only those preliminary, intermediate, or procedural rulings that relate to the final agency action presently before the court. Accordingly, we will consider the NRC's full power rulings only to the extent necessary to review the Commission's exercise of discretion in allowing immediate effectiveness.

[7] In particular, the Commission's denial of a financial qualification waiver, CLI-89-20 is interlocutory in nature and is not independently reviewable. We so held in dismissing an earlier petition for review of CLI-89-20, Order, Massachusetts v. NRC, No. 89-1648 (D.C.Cir. filed Dec. 26, 1989) (per curiam), and we see nothing in the immediate effectiveness decision to alter than conclusion. Therefore, we again decline to review CLI-80-20.

[8] Intervenor PSNH maintains that the Commission's evidentiary ruling on the Sholly/Beyea testimony in CLI-90-2 is also not a final licensing order subject to our review. Brief for PSNH at 22-23; see NRDC, Inc. v. NRC, 680 F.2d at 816 (ordinarily, agency's evidentiary ruling is not a final order).

In our opinion, however, the peculiar relationship between CLI-90-2 and the commission's immediate effectiveness decision of the same date, CLI-90-3, makes the decision to exlude the testimony properly reviewable. In allowing immediate effectiveness, the Commission observed that CLI-90-2 "forms an important part of conclusions regarding emergency planning for Seabrook." CLI-90-3, 31 N.R.C. at 225. Indeed, the Licensing Board believed that its initial ruling on the relevance of the Sholly/Beyea testimony "would have the potential to affect the basic structure of the case in a pervasive way,: JA at 144, and in certifying the question of the Commission, the Appeal Board stated that "this issue is cardinal to the resolution of a number

of matters in this proceeding." ALAB-922, 30 N.R.C. at 249. In sum, there is little doubt that if its decision on the relevance of the testimony had gone in petitioners' favor, the Commission would not have allowed the immediate effectiveness of the full power authorization. This close link between the two decisions renders our review of CLI-90-2 appropriate.

B. Interpretation of Emergency Planning Regulation.

In the NRC's view, an emergency response plan provides "reasonable assurance" of "adequate protective measures" under 10 C.F.R. § 50.47(a)(1) if it adequately satisfies the sixteen paragraph(b) criteria in a way that is implementable; the plan need not achieve any minimum radiation dose savings or

minimum evacuation time in the event of a specific accident. See CLI-90-2, 31 N.R.C. at 208, 216-17. This approach is thought most likely to produce a flexible plan that offers the best feasible means for minimizing harm to the public from unpredictable accidents, given the particular characteristics of the plant site and the surrounding EPZ. See id. at 215-17. If any interested party believes that satisfaction of the sixteen standards alone will not produce an adequate and implementable plan in a particular case, the party may petition the NRC uner 10 C.F.R. § 2.758 for a waiver of section 50.47 to allow the imposition of more stringent planning requirements. See id. at 217. Petitioners challenge this interpretation of the emergency planning

regulation and the Commission's consequent decision to exclude Sholly/Beyea testimony.

Petitioners' view of emergency planning fundamentally differs from the NRC's. It is their position that section 50.47(a)(1) requires the Commission to judge an emergency plan in terms of the actual dose of radiation received by a particular EPZ population in a hypothetical accident scenario. The inference to be drawn from their position is that a nuclear power plant may not be licensed for full power operation where the demography and physical constraints of the planning area are such that no feasible response plan can provide substantial protection under particular conditions. See Brief for Petitioners at 13, 43-46; Brief for

SAPL at 2-8. Because of the absence of sufficient protective sheltering near the beaches and the length of time potentially required for a complete evacuation of the beach population during periods of peak use, they contend that Seabrook is such a plant. See Oral Argument of Robert A. Backus, counsel for petitioner SAPL, Sept. 18, 1990:

> QUESTION: Would you agree that adequate sheltering is simply not available on the beaches for the beach population?
>
> MR. BACKUS: Essentially, we agree with that, Your Honor.
>
> QUESTION: Then is it your position that if there cannot be protection, a license may not issue?
>
> MR. BACKUS: That is our position.
>
> QUESTION: That this is a

characteristic inherent in the choice of the site?

MR. BACKUS: That's correct, Your Honor.

This basic, irreconcilable conflict fuels petitioner's challenge to the full power licensing of Seabrook. For that reason, we will address CLI-90-2 before turning to the immediate effectiveness ruling. As discussed below, we decline to disturb the Commission's application of section 50.47.

Our standard of review on this question is necessarily deferential. We will not overturn the Commission's interpretation of its own emergency planning rule "unless that interpretation is plainly inconsistent with the language of the regulation[]." San Luis Obispo Mothers for Peace v.

NRC, 789 F.2d 26, 30 (D.C.Cir.) (en banc) ("Mothers for Peace II"), cert. denied, 479 U.S. 923, 107 S.Ct. 330, 93 L.Ed.2d 302 (1986). If its reading of section 50.47 satisfies that standard, the Commission's application of the regulation to exclude petitioners' expert testimony may be set aside only if it was arbitrary, capricious, an abuse of discretion, or otherwise contrary to law. See 5 U.S.C. § 706(2)(A) (1988). Moreover, the Commission's licensing decisions are generally entitled to the highest judicial deference because of the unusually broad authority that Congress delegated to the agency under the Atomic Energy Act. Carstens v. NRC, 742 F.2d 1546, 1551 (D.C.Cir. 1984), cert. denied, 471 U.S. 1136, 105 S.Ct. 2675,

86 L.Ed.2d 694 (1985).

Petitioners argue that we should not defer to the Commission's interpretation of section 50.47 or the decision to exclude the Sholly/Beyea testimony on the ground that the NRC lacks expertise in the area of emergency planning. They contend that Congress recognized this supposed lack of expertise when it required the NRC to develop and implement mandatory offsite planning standards in consultation with an agency more specialized in emergency response, FEMA, see 1980 NRC Authorization Act, Pub.L. No. 96-295, § 109, 94 Stat. 780, 783-85 (1980), thereby indicating dissatisfaction with the failure of the "checklist" approach to offisite planning that the NRC employed prior to the Three Mile Island ("TMI") accident

in 1979.

Petitioners have confused the judicial deference that is given when the NRC makes "predictions, within its area of special expertise, at the frontiers of science," Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 103, 103 S.Ct. 2246, 2255, 76 L.Ed.2d 437 (1983), with the deference presumptively owed an agency's interpretation of its own regulations and with the heightened deference for NRC licensing decisions that flows from its broad statutory mandate. The latter two bases for judicial deference fully apply here.

In particular, the 1980 Authorization Act, an expired fiscal appropriations of law, was not in effect when CLI-90-2 was decided and therefore did not limit the licensing discretion

otherwise conferred on the Commission by Congress. Moreover, petitioners' argument that the NRC lacks expertise in offsite emergency planning was expressly rejected in Massachusetts v. United States, 856 F.2d 378 (1st Cir. 1988), where the court held that "[t]he substantive area in which an agency is deemed to be expert is determined by statute; here, under the relevant congressional enactments . . . , the NRC is specifically authorized and directed to determine whether emergency plans adequately protect the public." Id. at 382. We agree with the First Circuit. Accordingly, we see no reason to depart from the highly deferential standard of review outlined above.

Our analysis must begin with the wording of section 50.47.

Petitioners argue that the Commission's interpretation violates the plain language of the regulation because protective measures cannot possibly be judged "adequate," as required by section 50.47(a)(1), without consideration of their actual effectiveness in protecting the public. That conclusion, however, is not compelled by a straightforward reading of the rule.

The Commission observed that "[n]othing in the regulation contains any suggestion that calculations of dose consequences are intended to play a role in the evaluation of a plan's adequacy." CLI-90-2, 31 N.R.C. at 214. We cannot say that this judgment is flatly contradicted by the language or structure of section 50.47. As we have

previously noted in determining that a response plan need not consider a particular emergency event like an earthquake, section 50.47 "make[s] no reference to specific conditions or accident sequences." Mothers for Peace II, 789 F.2d at 43. Paragraph (a) appears to state the general goal of the regulatory scheme for emergency planning. As we earlier observed, paragraph (a) "does not address any particular emergency . . .; rather, it sets forth a general standard that envisions judgment and implies discretion." Id. at 31. Paragraph (b) then enumerates specific standards that a response plan "must meet," presumably for the purpose of achieving the goals of adequacy and implementability. 10 C.F.R. § 50.47(b). None of these

specific standards requires the Commission to measure a plan against particular hypothetical scenarios.

Other provisions in the regulation indicate that the core of the Commission's inquiry is compliance with the generic standards of paragraph (b). Paragraph (a)(2) provides that FEMA's determination supporting the "reasonable assurance" finding "will primarily be based on a review of the plans," 10 C.F.R. § 50.47(a)(2), which will necessarily focus on the contents required by paragraph (b) and Part 50, Appendix E.IV. Paragraph (c)(1) provides, inter alia, that "[f]ailure to meet the applicable standards set forth in paragraph (b) of this section may result in the Commission['s] declining to issue an operating license," unless

the applicant for the license can demonstrate to the Commission's satisfaction that deficiencies in the plan are not significant for the plant in question, that interim measures will compensate for the deficiencies, or that there are other compelling reasons to permit licensing. Id. § 50.47(c)(1).

In the event the applicant must develop its own response plan as a result of a refusal by state and local governments to participate in emergency planning, the regulation provides that the "utility plan will be evaluated against the same planning standards applicable to a state or local plan, as listed in paragraph (b) of this section," with certain allowances for the lack of governmental participation. Id. § 50.47(c)(1)(iii). Under paragraph

(d), the NRC's evaulation of onsite emergency planning for purposes of low power licensing requires a similar finidng of reasonable assurance of adequate protective measures, which will be based on the NRC's "assessment of the applicant's onsite emergency plans against the pertinent standards in paragraph (b) of this section and Appendix E." Id. § 50.47(d).'

All of these provisions bolster the Commission's conclusion that "adequacy is to be judged by conformity with the planning standards." CLI-90-2, 31 N.R.C. at 214. These sixteen standards were derived from assessments of a spectrum of possible radiological accidents, and the NRC has concluded that they provide an appropriate basis for arriving at a plan that will be

comprehensive and flexible. See id. at 215-17. Petitioners' construction of paragraph (a) is certainly plausible, perhaps even desirable as a matter of policy, but it not the only reasonable reading of the regulation. We conclude that the Commission's interpretation is not plainly inconsistent with any language in section 50.47.

Petitioners further argue that the agency interpretation is contrary to the mandate of the 1980 Authorization Act, in which Congress directed the NRC to establish and enforce standards for offsite emergency plans. See Pub.L. No. 96-295, § 109, 94 Stat. at 783-84.[+/]

[+/] Section 109 of the NRC Authorization Act is reprinted in the Appendix following this opinion.

They point to language in the Authorization Act indicating that a response plan was to "provide[] reasonable assurance that public health and safety is not endangered," id. § 109(b)(1)(B)(i)(II); that the NRC was required to "assess the adequacy" of existing plans, id. § 109(b)(3); and that the agency was directed to report to Congress on the emergency response capabilities available for plants with existing construction permits (which included Seabrook) and to determine "the maximum zone in the vicinity of each such facility for which evacuation of individuals is feasible at various different times corresponding to the representative warning times for various different types of accidents," id. § 109(c). Petitioners contend that these

provisions required the NRC to judge the effectiveness of a particular plan's protective measures based on "the degree to which the public is actually protected by those measures. Brief for Petitioners at 27.

We do not agree that the Authorization Act required the NRC to develop standards for evaluating each emergency plan in terms of an actual reduction in potential radiation exposure. The Act directed the agency to promulgate planning standards by rule and to require as a condition of licensing that for each plant there exist either a plan that complies with the NRC's regulatory's standards for responding to a radiological emergency, or in the alternnative, a plan that offers reasonable assurance that public

health and safety will not be endangered. Pub.L. No. 96-295, § 109(b)(1). This congressional mandate left to the NRC's discretion the specific requirements of emergency planning. The alternative structure of section 109(b) reflects Congress's assumption that the NRC could develop generic standards that would reasonably assure the public safety without having to examine the specific safety consequences of each emergency plan for each plant.

Petitioners do not contend that the agency failed to comply with section 109(c) of the Act, which simply required the NRC to report to Congress on the emergency response capabilities of each plant then under construction and to include in that report a description of

the maximum feasible emergency planning zone for such plant. See id. § 109(c). The fact that Congress directed the NRC to identify enlarged EPZ's for all new facilities with reference to feasible evacuation times does not signify that a response plan could only be approved if it would achieve some minimum safe evacuation time for persons in the EPZ. This provision did not constrain the NRC's discretion to define generic standards for such protective measures. See H.R.Rep. No. 1070, 96th Cong., 2d Sess. 27 (1980) (conference report) (while designation of EPZ should consider capability to implement protective measures such as evacuation and sheltering quickly and safely, minimum requirements for planning standards left to NRC discretion.)

[13] Petitioners offer a second statutory basis for their contention that the adequacy of emergency planning must be measured by the actual mitigation of harmful consequences. As a result of the TMI accident, they argue, the NRC came to realize that emergency planning is an essential "first tier" safety requirement, along with siting and design engineering, for achieving "adequate protection to the health and safety of the public," the goal of licensing under section 182(a) of the AEA, 42 U.S.C. § 2232(a). See 44 Fed. Reg. 75,167, 75,169 (1979) (rationale for promulgation of section 50.47). They conclude from this that the 1980 Authorization Act required that the same standards be applied in determining the adequacy of offsite

emergency planning as are applied in determining the adequacy of site selection and plant design.

From this premise, petitioners reason that each emergency response plan must be judged to provide effective protection for the public from hypotehtical accidents that surpass the containment capabilities of engineered safety features and onsite precautions. The only possible measure of such effectiveness they claim is dose consequences.

Petitioners contend that in its 1980 rulemaking proceedings on emergency planning, the NRC embraced this concept and, in response to the Authorization Act, rejected the pre-TMI practice of relying on a checklist to guide state and local authorities in the development of emergency plans because that approach

was insufficient to achieve "adequate protection." Petitioners argue that the Commission's current intrepretation of section 50.47 represents a throwback to the pre-Authorization Act practice because the paragraph (b) catalog of standards is almost identical to the earlier checklist used by the NRC. Cf. NRC, Guide and Checklist for the Development and Evaluation of State and Local Government Radiological Emergency Response Plans in Support of Fixed Nuclear Facilities, NUREG-75/111 (1974).

In CLI-90-2, the Commission agreed that emergency planning under section 50.47 is a "first-tier" safety requirement designed to implement the "adequate protection" standard of section 182(a) of the AEA. 31 N.R.C. at 210-13. But the Commission did not

believe this fact was material to whether evidence like the Sholly/Beyea testimony is properly considered in the review of an emergency plan. Id. at 210. According to the Commission, even though offsite planning is an essential element of adequate public protection, it is not necessarily of equal safety significance with other protective requirements:

> [A]dequate emergency planning is "essential," just as adequate lifeboats are essential for a liner carrying passengers at sea. But it's only common sense to acknowledge that emergency plans, like lifeboats, are a backstop, a second or third line of defense that comes into play only in the extremely rare circumstance that engineered design features and human capacity to take corrective action have both failed to avert a serious mishap.

Id. at 213.

For initial siting approval, the NRC requires the applicant to establish

around the proposed plant an "exclusion area" and "low population zone" ("LPZ"), the sizes of which must be determined on the basis of specific maximum safe radiation exposure levels for the public assuming a fission product release from the reactor core. See 10 C.F.R. § 100.11(a)(1)(2). The siting regulations also require the determination of a "population center distance," measuring the distance to the nearest area of dense population, which must be at least one and one-third times the radius of the LPZ. See id. § 100.11(a)(3). Thus, the shorter the population distance, the greater the design-engineered safeguards required in order to have an LPZ with an outer boundary of no more than three-fourths the distance to the nearest population center. In emergency

planning, by contrast, the goal of mitigating dose consequences in the larger EPZs is to be attained through the application of generalized planning standards without consideration of actual levels of dose savings. See Shoreham, 24 N.R.C. at 30.

Our limited task on this point is to determine whether, given its recognition that emergency planning is "first-tier," the NRC's generalized approach to dose mitigation in offsite planning is a reasonable exercise of the agency's discretion under section 182(a). We believe it is. Section 182(a) does not expressly require that "adequate protection" be judged by a single standard for different categories of safety features. In fact, we have repeatedly emphasized the broad

discretion available to the agency in devising appropriate standards and have held that "adequate protection" permits the acceptance of some level of risk. See Union of Concerned Scientists v. NRC, 824 F.2d 108, 117-18 (D.C.Cir. 1987). It is for the NRC to determine whether a level of, or approach to, risk reduction is acceptable for offsite planning that may not be adequate for plant siting and design engineering.

Contrary to petitioner's contention, the Commission's July 23, 1980, rulemaking proceedings do not clearly establish that section 50.47 was intended to achieve a measurable level of effective protection in specific cases. In choosing the word "adequate" over "appropriate" for paragraph (a), certain members of the Commission voiced

the opinion that "adequacy" would connote reasonabe assurance of effective dose reductions, whereas "appropriate" might be satisfied by a less demanding best-efforts standard that could leave the public in danger. See Transcript of NRC Rulemaking Session, July 23, 1980, at 22-28, 34-43, reprinted in JA at 25-31, 37-46. Petitioners argue that these statements contemplate a case-by-case effectiveness assessment.

We are not convinced. At most, the 1980 rulemaking proceedings establish that the overall goal of emergency planning is reasonable and feasible dose reductions under the circumstances, a proposition reiterated in the Commission's ruling, see CLI-90-2, 31 N.R.C. at 216-17. In the same hearing cited by the petitioners, one

commissioner stated:

> [T]he whole thrust of the rule as I perceive it is what we do things with plant design and operation to try to keep things from happening. Then you can say if something does happen it seems sensible . . . to have pre-existing plans and notification means so that we can take whatever measures are practicle . . . to reduce the radiological hazard.

JA at 38. Another commissioner noted that a plan need not

> be found inadequate just because you know that there are going to be some periods of time when you can't do that which you would really like to be able to do . . . because of the conditions of the accident or the conditions of the weather.

Id. at 41-42. While the adequacy of a plan is necessarily determined on a case-by-case basis, the rulemaking record does not contradict the Commission's decision that the minimization of harm to the public in each case may be inferred from satisfaction of the sixteen planning

standards, regardless of whether the plan will actually protect the entire EPZ under all conditions if one of the particular accidents assessed in the underlying guidelines should occur.

Nor do we accept the claim that under the Commission's interpretation, section 50.47 amounts to little more than a pre-TMI reliance on a pro forma "checklist." Before 1980, the Commission did not require an NRC-approved offsite emergency plan as a condition of licensing. The checklist provided state and local governments with criteria for the development of plans for responding to radiological emergencies and facilitated their coordination with those of the licensee. See NRC, Emergency Planning for Nuclear Power Plants, Regulatory Guide 1.101 (rev.

Mar. 1977). The regulatory scheme for emergency planning deveoped by the NRC in response to TMI and the 1980 Authorization Act is markedly more demanding than the prior practice, even though the parargraph (b) planning standards are largely drawn from the earlier criteria. See generally 45 Fed.Reg. 55-401, 55-402-08 (1980).

After 1980, satisfaction of these standards became for the first time a condition of licensing that required the finding of adequacy by FEMA and the NRC. Id. at 55,403. The new scheme provided that where significant deficiencies in a plan would preclude the finding of adequacy, the plant could be shut down if the deficiencies were not corrected within four months. Id. The geographical area for offsite planning

was substantially expanded from the LPZ to two larger zones, the ten-mile radius plume exposure pathway EPZ and the fifty-mile radius ingestion pathway EPZ. See id. at 55,406; 44 Fed. Reg. 61,123 (1979); see also Seacoast Anti-Pollution League v. NRC, 690 F.2d 1025, 1028-29 & nn.10 & 12 (D.C.Cir. 1982) Also, the new scheme required detailed implementing procedures and more stringent public notification capabilities. See 45 Fed. Reg. at 55,403, 55,407. Finally, emergency plans must comply with the detailed requirements of Appendix E. These enhanced safety requirements plainly represent something more than a checklist review.

Furthermore, we do not take it from the Commission's ruling in CLI-90-2 that

paragraph (a) has no meaning independent of paragraph (b). As we understand the NRC's application of the regulation, paragraph (a) requires the agency to determine that compliance with the sixteen planning standards is more than pro forma. The NRC must assure itself, based on FEMA's review, that the plan addresses each of the individual requirements in a mannner that is adequate and implementable. There is ample indication in the administrative record that the Licensing Board employed this approach in its approval of the NH Plan for Seabrook.

For example, the planning standard in section 50.47(b)(10) is satisfied if the response plan demonstrates that "[a] range of protective actions [has] been developed . . . for emergency workers

and the public." 10 C.F.R. § 50.47(b)(10). Petitioners argued before the Licensing Board that the NH Plan did not satisfy (b)(10) because it did not contain adequate provisions for sheltering the beach population. See CLI-90-3, 31 N.R.C. at 244. Commission guidance makes clear, however, that (b)(10) does not require sheltering as an option but does require an evaluation of the expected advantages of sheltering under local circumstances. Id. (citing NUREG-0654, Criterion 11.J.10m). Pursuant to this guidance, the Licensing Board set out to determine "whether the State of New Hampshire has given careful and adequate consideration to sheltering as a protective action" in the NH Plan. LBP-88-32, 28 N.R.C. at 771; see CLI-90-3, 31 N.R.C. at 244.

The Board found that the State had satisfied this standard. In response to comments from FEMA, the State had provided detailed explanations of its approach to the use of sheltering for the beach population. 28 N.R.C. at 758. Under almost all circumstances, early beach closure or evacuation would be preferred action for the beach areas because of the lack of beachside structures that would offer substantial protection. Id. at 758, 766. The plan included a description of the very low-probability conditions under which emergency planners would choose general sheltering for the beach population. Id. at 758-59, 775.

Sheltering would be more readily utilized for the estimated two percent of beachgoers without their own

transportation, and the plan identified specific shelters for these persons and provided for sufficient bus transportation along the beach routes. Id. at 759, 761. In addition, the Board found that credible surveys established that sheltering providing a dose reduction of at least ten percent existed for the entire peak or near peak transient summer beach crowd in the very limited circumstances in which sheltering would be preferred option. Id. at 770-72, 775. FEMA agreed with the technical bases for the State's approach to sheltering and concluded that the NH Plan, with its primary reliance on evacuation, satisfied the requirement for a range of protective measures. Id. at 767.

Based on these and other findings, the Licensing Board ruled that adequate consideration had been given in the NH plan to the protective action of sheltering Seabrook's beach population. Id. at 776. On review, the Appeal Board's conclusions on the limited nature of the sheltering option but went even further on the question of implementability, requiring that the NH Plan include more detailed implementing instructions for those very low probability situations when general sheltering of the transient beach population would be the preferred option. See ALAB-924, 30 N.R.C. at 362-73.

Far from applying an uncritical checklist methodology, the Licensing and Appeal Boards exhibited a reasoned

evaluation of the adequacy and implementability of the plan's compliance with the paragraph (b) standards. That is the approach we interpret the Commission to require under section 50.47. See, e.g., CLI-90-3, 31 N.R.C. at 244-48 (discussing reasonableness of Licensing Board's treatment of sheltering option). Indeed, in ruling on the immediate effectiveness of the full power authorization, the Commission agreed with the Appeal Board that the plan should include further implementing detail if general beach sheltering was to be an option. Id. at 248. Although it also agreed with the Licensing Board that the lack of such detail was not significant, id., the Commission's concurrence with the Appeal Board on the

need for further implementing measures reinforces our conclusion that the NRC requires fulfillment of the individual paragraph (b) standards in an adequate and implementable manner.

[14] Having determined that the Commission's interpretation of its emergency planning regulation is consistent with the language of the regulation and is not otherwise contrary to law, we have little difficulty concluding that the Commission's exclusion of the Sholly/Beyea testimony was not improper.

Given the fact that the Licensing Board's task under section 50.47 is limited to a review of the plan's conformity with the paragraph (b) standards and that this review does not entail consideration of the dose

consequences that might result from various hypothetical accidents, the Commission had a reasonable basis for concluding that the proffered evidence was not relevant to the proceedings because it would not make the finding of an adequate and implementable plan within the meaning of the regulation more or less likely. Cf.Fed.Re.Evid. 401. To allow litigation of specific dose consequences would be inconsistent with a methodology that was derived from generic guidelines and was designed to eliminate the need for an examination of hypothetical dose savings. See CLI-90-2, 31 N.R.C. at 215-17. This determination is within the NRC's "great discretion to decide what matters are relevant to its licensing decision." Union of Concerned Scientists v. NRC,

735 F.2d 1437, 1446 (D.C. Cir. 1984) ("UCS I"), cert denied, 469 U.S. 1132, 105 S.Ct. 815, 83 L.Ed.2d 808 (1985).

At bottom, petitioners' contention is that the Sholly/Beyea testimony is probative of their belief that the effective emergency planning at Seabrook is inherently impossible because the plant is located so near the crowded ocean beaches, a fact that was described by SAPL counsel at oral argument as an "operating license blocker." They point to post-TMI rules that require applicants for nuclear facility construction permits to file preliminary emergency plans, see 10 C.F.R. §50.34(a)(10), Appendix E.II ("Preliminary Safety Analysis Report"), and they suggest that this requirement means that after 1980 the feasibility of

emergency planning was meant to influence site selection. The implication apparently is that inherent planning difficulties created by the siting of a facility may block section 50.47 approval where the plant received its construction permit, as did Seabrook, prior to TMI.

The problem is that, as discussed above, neither the AEA nor section 50.47 as interpreted by the Commission leads to this implication. The Commission has given no indication that preliminary emergency plans under section 50.34(a)(10) will be used as "site blockers" any more than final emergency plans under section 50.47.

Finally, we note that although the Commission held the Sholly/Beyea testimony inadmissible for purposes of

the section 50.47 proceeding, the Commission did suggest a possible use for such evidence. See CLI-90-2, 31 N.R.C. at 217. It noted that when the Licensing Board refused to admit the evidence, petitioners could have filed a petition for a waiver of or exception to the normal application of section 50.47, requesting more stringent planning requirements for Seabrook on the ground that "special circumstances with respect to the subject matter of the particular proceeding are such that application of the rule or regulation . . . would not serve the purposes for which the rule or regulation was adopted." 10 C.F.R. §2.758(b). With their application for a waiver, petitioners could then have submitted the Sholly/Beyea testimony to the Licensing Board in the form of

supporting affidavits "set[ting] forth with particularity the special circumstances alleged to justify the waiver or exception." Id. Petitioners failed to avail themselves of this opportunity.

C. Immediate Effectiveness Review

Petitioners argue that the Appeal Board's ruling in ALAB-924 mandated that the Licensing Board hold further hearings on beach sheltering and on the other remanded issues prior to authorizing a full power license for Seabrook, and that, therefore, the Commission acted unlawfully in refusing to vacate authorization of the license and in allowing the Licensing Board's decisions to become immediately effective. They also contend that the Commission's action in CLI-90-3 violated

their statutory right to a hearing under section 189(a).

[15] The NRC's rules of practice do not specifically provide for the "mandatory relief" petitioners were seeking in their motion to vacate. See CLI-90-3, 31 N.R.C. at 229. As a practical matter, no order was necessary because an initial decision authorizing a full power license is automatically stayed pending the immediate effectiveness review. See 10 C.F.R. §2.764(f)(3)(iii). Nevertheless, the Commission chose to entertain petitioners' motion, and, borrowing from the law of judicial mandamus, decided that such extraordinary relief would only be appropriate if the Licensing Board had breached "a clear, nondiscretionary duty to withold . . .

authorization." CLI-90-3, 31 N.R.C. at 229-30 (citing Ganem v. Heckler, 746 F.2d 844, 852 (D.C.Cir. 1984)). The decision to adopt this approach was peculiarly within the Commission's discretion.

[16] We cannot say that the Commission acted arbitrarily or capriciously in concluding that the Licensing Board had not violated such a duty. As the Commission observed, no NRC rules preclude the authorization of a license while remand proceedings are pending, and there is precedent for such authorizations. CLI-90-3, 31 N.R.C at 230; see, e.g., Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-84-53, 20 N.R.C 1531, 1542-48 (1984). Indeed, 10 C.F.R. §50.47(c)(1) expressly contemplates that deficiencies

in an emergency plan that are "not significant for the plant in question" may be resolved by the Licensing Board after license issuance. 31 N.R.C. at 230.

The Appeal Board did not state that the deficiencies it identified in the LBP-88-32 partial initial decision precluded authorization. It expressly affirmed the Licensing Board's decision in all respects other than the four specific items and said only that these items required "appropriate corrective action." ALAB-924, 30 N.R.C. at 373. ALAB-924 did make it clear that so long the NH Plan was to include sheltering as a possible protective option for the general transient beach population, implementing details would have to be included in it, id. at 368, 372 n. 194;

but the Appeal Board's directives did not rule out a finding by the Licensing Board that the planning deficiencies were not significant under section 50.47(c). In fact, the Appeal Board deferred any action on petitioners' motion to vacate in order to give the Licensing Board an opportunity to provide "some explanation of the relevance of 10 C.F.R. §50.47(c)(1)." JA at 1049. And, as the Licensing Board pointed out in its supplemental opinion, LBP-89-33, 30 N.R.C. at 657 & n.2, only one week prior to the issuance of ALAB-924, the Appeal Board had denied a motion by petitioners for an order directing the Licensing Board to withhold its impending decision in LBP-89-32, even though the Commission had made it known that LBP-89-32 "would

have the potential to authorize issuance of the full-power license," CLI-89-19, 30 N.R.C. 171, 173 (1989).

[17] We do not agree that the Commission's application of section 50.47(c) is inconsistent with petitioners' right to a hearing under section 189 of the AEA. Section 189(a) provides that in any licensing proceeding, the Commission shall grant a hearing upon the request of any person whose interest may be affected." 42 U.S.C. §2239(a)(1). We have held that section 189(a) guarantees an opportunity for a hearing on issues that the NRC considers material to licensing. See UCS I, 735 F. 2d at 1443, 1447-48. Section 50.47(c)(1) indicates that the NRC does not consider all issues relating to deficiencies in a particular

response plan to be material to the basic findings required for license authorization under sections 50.47(a)(1) and 50-57(a)(3). Thus, consistent with the AEA, the Licensing Board could choose to address the remanded issues in post-licensing hearings upon finding that the issues were not significant for emergency planning at Seabrook. See CLI-90-3, 31 N.R.C. at 230-31. In addition, it is established NRC practice that, where appropriate, that Licensing Board may refer minor safety matters not pertinent to its basic findings to the NRC staff for post-hearing resolution, and may make predictive findings regarding emergency planning that are subject to post-hearing verification. Id. at 231 n. 11.

Turning to its immediate effectiveness review, the Commission examined the reasonableness of the Licensing Board's supplemental opinion explaining why the four remanded issues were not significant for the adequacy of emergency planning. On the issue of letters of agreement with school personnel, the Commission believed that the Licensing Board's further explanation of its original finding might well satisfy the Appeal Board's concerns; at any rate, there was support for the finding that sufficient school personnel would accompany children in an emergency and no indication that evacuation would be delayed even if the personnel did not participate. Id. at 234-35. The Commission found reasonable the Licensing Board's opinion that the

second remanded issue - the accuracy of the special-needs survey - was a question more of fine-tuning an acceptable methodology than of developing a different methodology, and that any uncertainty about the size of the special-needs population was probably not large enough to require additional transportation resources. Id. at 239-40. The accuracy of the evacuation time estimates for advanced life support patients remained unresolved, in the Commission's opinion, but the error was not large enough to cause authorities to recommend sheltering over evacuation and could easily be corrected, given that such patients were found at only two locations in the EPZ. Id. at 243.

Finally, on the lack of implementing details for beach sheltering, the Commission believed that correcting this deficiency would not be difficult because a comprehensive survey of available beachside shelters had been prepared, and the Appeal Board's mandate simply required that the NH Plan designate which shelters on the survey list would be suitable and available for use. Id. at 248 & n.45. Moreover, the Commission concurred with the Licensing Board that the sheltering issue was not significant. Evacuation would be the primary protective action for the beach and the record showed that the protection afforded by the structures at the beach was "trivial," as further evidenced by the fact that the Utilities Plan, which the Licensing Board had

found adequate, did not include sheltering as an option for the Massachusetts beaches. Id. at 248. In this regard, we note that in later proceedings, New Hampshire revised its plan to omit any provision for sheltering the general beach population other than a "shelter in place" option, and the Licensing Board therefore concluded that this issue was resolved. LBP-90-20, 31 N.R.C. 581, 585 (1990).

It is evident that the Commission did not abuse it discretion in concluding that the Licensing Board's findings on these matters were reasonable. See Oystershell Alliance, 800 F.2d at 1206. Hence, we also deny the petitions for review as to this full power issue.

D. Low Power Licensing Issues (No. 89-1306)

[18] We need not devote much analysis to petitioners' arguments concerning the Appeal Board's interpretation of the cooling system contention in the low power proceedings. See background discussion at pages 13-14 above. On this issue, petitioners direct most of their effort toward relitigating the question of whether microbiologically induced corrosion is within the four corners of NECNP's 1982 contention. This court, however, is limited to deciding whether the Appeal Board's ruling in ALAB-899 was arbitrary or capricious, or otherwise contrary to law. See 5 U.S.C §706(2)(A). Petitioners have not shown that it was.

They argue only that the Appeal Board acted arbitrarily by ignoring certain terms in the contention that could conceivably be read to encompass the build-up of microscopic aquatic organisms, and that the Board had no reasonable grounds for disregarding the opinion of NECNP's expert concerning the technical interpretation of these terms. We think the Appeal Board's construction was reasonable because it took into account the entire context of the contention, whose heading and stated basis focus solely on the blockage of cooling systems due to the accumulation of marine life and debris. See ALAB-899, 28 N.R.C. at 96-97. One important purpose of the NRC's pleading requirements in 10 C.F.R. §2.714(b)(2) is to put all parties reasonably on

notice about what issues may be raised. 28 N.R.C. at 97. Therefore, it was sensible for the Board to approach the matter as a straightforward question of linguistic construction and not as a matter of technical interpretation requiring a battle of experts. We deny the petition as to this issue.

[19] The second low power issue in No. 89-1306, however, does raise questions that justify granting this petition. Petitioners argue that the NRC violated their statutory right to a hearing by rejecting the contention concerning the onsite weaknesses identified in the 1988 full participation exercise. See background discussion at pages 15-16. Because we are unable to determine whether the Appeal Board properly considered the

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potential materiality of the allegations involved, we must remand this issue for further explanation.

The Appeal Board's ruling in ALAB-918 is the final agency action on the exercise contention and is the only opinion before us. Petitioners challenge the Appeal Board's application, in ALAB-918, of the late-filed contention criteria of 10 C.F.R. §2.714(a)(1) on the ground that use of these criteria cannot be squared with our decisions in UCS I and San Luis Obispo Mothers for Peace v. NRC, 751 F.2d 1287 (D.C. Cir. 1984) ("Mothers for Peace I"), vacated in part, 760 F.2d 1320 (D.C.Cir.1985) (en banc), and aff'd, 789 F.2d 26 (D.C.Cir.) (en banc), cert denied, 479 U.S. 923, 107 S.Ct. 330, 93 L.Ed.2d 302 (1986).

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Under the NRC's rules, intervenors in licensing proceedings must file their proposed contentions at least fifteen days prior to the Licensing Board's prehearing conference. 10 C.F.R. §2.714(b)(1). The Board may grant additional time for the filing of contentions based upon a balancing of the factors set forth in section 2.714(a)(1) governing nontimely petitions for intervention. Id. Those factors are:

(i) Good cause, if any, for failure to file on time.

(ii) The availability of other means whereby the petitioner's interest will be protected.

(iii) The extent to which the petitioner's participation may

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reasonable be expected to assist in developing a sound record.

(iv) The extent to which the petitioner's interest will be represented by existing parties.

(v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

Id. §2.714(a)(1).

Because of the requirement, under section 2.714(b)(1), that contentions be filed prior to the prehearing conference, it would appear that almost any contention based on the results of a plant's full participation exercise would be subject to a balancing of these factors, under NRC rules, the exercise must take place less than two years prior to full power licensing, id. Part 50, Appendix E.IV.F.1, a period that

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generally falls well after the prehearing conference. The full participation exercise for Seabrook, for example, occurred in June 1988, more then six years after the prehearing conference on the low power licensing issues.

[20, 21] Under UCS I, the NRC may not eliminate from the licensing proceedings consideration of evidence that is relevant to material licensing issues, such as issues raised by emergency preparedness exercises. 735 F.2d at 1443-48; see Union of Concerned Scientists v. NRC, 920 F.2d 50, 55 (D.C.Cir.1990) (reading UCS I to require a hearing on all material "issues", as distinct from all "evidence" or "information" that comes to light after the time of the initial application).

At the same time, we fully recognize that the NRC has "wide discretion to structure its licensing hearings in the interests of speed and efficiency." 735 F.2d at 1448. This discretion may include, for example, rules on the admissibility of evidence, enhanced pleading requirements in support of contentions, and procedures for summary disposition of claims not meeting the agency's criteria. See id. In short, we allow for a balancing between the public's right to a hearing under section 189 and the NRC's discretion to structure efficient licensing proceedings. See id. at 1446-49.

We are not willing to say that the sensitive balance outlined in UCS I is upset whenever the NRC applies the late-filed contention factors to

submissions based on deficiencies revealed in exercises occurring after the prehearing cut off. The unfettered ability to file a late contention may significantly undermine the efficiency of a proceeding even if the contention is based on newly discovered information. The NRC should retain discretion to impose enhanced procedural requirements on such filings so long as the use of that discretion is consistent with section 189.

On their face, the five factors listed in section 2.714(a)(1) as justifying intervention are not well suited to the question of whether a late-filed contention should be considered where based on deficiencies found in a subsequent exercise, and we think it odd that the NRC would choose

to apply them in this context. An exercises contention will in practice almost always be filed out of time, so the question of "good cause" seems less central. Two of the other factors also do not make much sense here. (Factor (iv) does not seem relevant because there will almost never be other parties already litigating the issues raised by the new contention. And factor (v) is potentially inconsistent with UCS I's holding that emergency preparedness exercises are material to licensing: it should not be a strike against admitting the contention that it will "broaden the issues" to include material questions about the adequacy of preparedness. Nevertheless, in practice the NRC's boards have attempted to compensate somewhat for the problematic nature of

these factors, and we will look to the manner in which they have been applied in the particular case before us.

[22] We think the Appeal Board's application of factor (i) to petitioners' exercise contention is reasonable and consistent with section 189. In considering "good cause" for a late filing, the adjudicatory boards insist that "a late-filed contention must be tendered promptly upon the discovery of the information upon which it is based." ALAB-918, 29 N.R.C. at 482 (citing Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), CLI-83-19, 17 N.R.C. 1041, 1048 (1983)). This prompt-filing requirement is in line with the agency's broad discretion to structure efficient proceedings. Moreover, we have been

presented with no argument for rejecting the Board's view that factor (i) is the "most crucial" in the analysis. See 29 N.R.C. at 484.

Applied in this fashion, the first factor is not contrary to Mothers for Peace I which held that under section 189(a), the NRC may not unjustifiably require that a material contention satisfy the heightened evidentiary standards for reopening a closed record. See 751 F.2d at 1316. Mothers for Peace I does not constrain the NRC's discretion to impose reasonable limits on the untimely presentation of claims including claims based on late-breaking developments that are not promptly filed. We do not express an opinion here about whether the NRC may justifiably apply these five factors to

contentions that are tendered promptly upon discovery of newly revealed information. The Appeal Board made it clear that that would be the agency's practice in such cases. See 29 N.R.C. at 480.

In the present case, the Appeal Board did not act arbitrarily in upholding the finding that petitioners lacked good cause for their failure to tender the exercise contention promptly. The Appeal Board agreed with the Licensing Board that petitioners had no convincing justification for waiting until September 16, 1988, to present their contention when all of the essential information on which it was based was available in the July 6 inspection report, which was received by petitioners no later than July 15. Id.

at 482-83. Although this period of approximately two months does not strike us as an exceptional delay, we are not willing to interpose our judgment. The low power proceedings had advanced to a stage when promptness might have been especially important. Indeed, the Licensing Board had renewed its authorization of a low power license when petitioners moved to admit their contention. See id. at 475-76.

The problem with the Appeal Board's reasoning relates to its application of the remaining four factors. The NRC requires a "compelling" showing on these factors to overcome a lack of good cause under (i). Id. at 484. In this counterbalancing, the greatest emphasis seems to be on factor (iii)-the ability of the petitioning party to assist in

developing a sound record. See id. at 483-85. The Appeal Board stated that petitioners "had an obligation in addressing the third criterion to set out with as much particularity as possible the precise issues they plan to cover, the identity of their prospective witnesses, and a summary of their proposed testimony." Id. at 483. Here the Appeal Board upheld the finding that this significant factor weighed against admitting the contention because petitioners, who were "experience litigants," had failed in their motion papers "to furnish the required information in the prescribed form." Id. at 483-84.

[23] Our concern is that in focusing on whether petitioners' papers satisfied these formal "particularity"

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requirements, the Appeal Board may have lost sight of the potential materiality of the issues raised by the contention and thus may have strayed from the line laid down in UCS I. We think section 189 required the Appeal Board to provide an affirmative explanation as to whether petitioners' allegations raised any material issue and, if they did, how that materiality was to be weighed against petitioners delay in promptly filing the contention. We note, for example, that petitioners offered an expert affidavit alleging that the July 6 inspection report showed fundamental deficiencies in Seabrook's onsite emergency preparedness. See Affidavit of Robert D. Pollard, Sept. 16, 1988. Petitioners specifically contended that the deficiencies in the onsite plan

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precluded a finding of compliance with paragraphs (b)(2), (b)(14), and (b)(15) of the section 50.47 planning guidelines. JA, No. 89-1306, at 253-54.

The Appeal Board failed to consider these allegation in analyzing whether, on balance, it was proper to reject petitioner's late-filed claims. The Licensing Board did engage in an extended discussion of the safety significance of the exercise issues in the context of its ruling on petitioners' motion to reopen the record, see LBP-89-4, 29 N.R.C. 62, 74-86 (1989), but the Appeal Board declined to address that portion of the Licensing Board's decision, ALAB-918, 29 N.R.C. at 485. Thus, we cannot impute this reasoning to the higher board.

The Appeal Board provided a second, independent basis for its opinion, namely, that no hearing was required on petitioner's exercise contention because the contention did not involved a "fundamental flaw" in the onsite plan. Id. at 485. Under the NRC precedent, a fundamental flaw is a deficiency that precludes the finding of reasonable assurance under 50.47(a)(1), and is confined to deficiencies that reflect a failure of an essential element of the plan that can be remedied only through a significant revision of the plan. See Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-903, 28 N.R.C. 499, 504-05 (1988) ("LILCO"). We acknowledge this concept in UCS I, and stated that our gloss on section 189 does not restrict the NRC's

authority to adopt this substantive licensing standard. 735 F.2d at 1448. We nevertheless recognized that even the best of plans may be so poorly implemented that it would be foolhardy to license the plant until fundamental deficiencies detected in an exercise, such as serious shortcomings in staff training, were substantially corrected. Cf. 10 C.F.R. § 50.47(b)(15) (requiring plan to provide for adequate training of emergency personnel). Thus we noted that the agency would still be subject to challenge for applying the standard arbitrarily or capriciously. See 735 F.2d at 1448 n. 20.

Here, we are unable to determine from the Appeal Board's terse explanation whether it acted properly in applying the fundamental flaw concept.

The Board simply stated the conclusion that the purported weaknesses in the training of Technical Support Center and Emergency Operations Facility staff could be readily corrected through minor modifications in operating procedures or supplemental training and would not require any revision in the onsite plan. ALAB-918, 29 N.R.C. at 485-86. Once again, this judgment does not meet the allegations set out in petitioners' contention and in the Pollard Affidavit concerning adequate compliance with specific planning standards. Moreover, in a second affidavit, filed in response to the NRC's September 28 follow-up inspection report, petitioners presented further evidence to support their claim that the alleged deficiencies had not been adequately addressed. See Second

Affidavit of Robert D. Pollard, Nov. 8, 1988.

We fail to see how the Appeal Board could reasonably determine the materiality of this contention under the fundamental flaw rubric without considering the supporting allegations. The LILCO opinion relied on by the Appeal Board draws a distinction between fundamental flaws and "[m]inor or isolated problems on the day of the exercise" that can be "readily corrected." ALAB-903, 28 N.R.C. at 505, 506, cited in ALAB-918, 29 N.R.C. at 485. There would appear to be a substantial variance between such nonfundamental deficiencies and the serious shortcomings in staff competency alleged in the Pollard Affidavit.

Accordingly, we must grant the petition for review of this issue and remand ALAB-918 to the Appeal Board for further consideration of the materiality of petitioners' exercise contention.

As is apparent, we disagree with the NRC and PSNH that this issue was mooted by the September 1989 exercise of Seabrook's onsite plan. Appendix E of the emergency planning regulations calls for a prelicense onsite drill if the full participation exercise occurs more than a year before full power licensing. 10 C.F.R. Part 50, Appendix E.IV.F.1. We do not believe that such an onsite exercise is intended to supersede the full participation drill, and thus we reject the NRC's contention that the onsite exercise becomes the "legal underpinning" for approval of the

full power license. Supplemental Brief for Respondents at 6. The Licensing Board essentially rejected the view now adopted by staff counsel when it described the purpose of the more limited onsite drill: "to ensure that emergency response personnel retain sufficient knowledge and expertise to actuate an emergency [plan] already determined through a reasonably current 'full participation' exercise to be adequate and without fundamental flaws." LBP-89-38, 30 N.R.C. 725, 744-45 (1989) (emphasis added).

[24,25] In granting the petition for review of ALAB-918, we do not vacate the authorization of Seabrook's operating licenses. In appropriate cases, we will remand without vacating an agency's order where the reason for

the remand is a lack of reasoned decisionmaking. E.G., International Union, UMW v. Mine Safety & Health Admin., 920 F.2d 960, 967 (D.C. Cir. 1990). "Relevant to the choice are the seriousness of the order's deficiencies (and thus the extent of doubt whether the agency chose correctly) and the disruptive consequences of an interim change that may itself be changed." Id.

On the record before us, only the allegations and affidavits offered by petitioners provide a basis for concern about the adequacy of onsite preparedness. Although we are unwilling to conclude that the September 1989 onsite exercise fully tested all aspects of emergency planning potentially implicated by petitioners' contention, we see nothing in the results of that

exercise to indicate any ongoing flaws in staff competency. Most important, we note that Seabrook was scheduled for a second full participation exercise in December 1990. A clean record in that exercise will likely moot this issue. Hence, we decide against imposing an immensely disruptive interim status quo that may itself be displaced by the Appeal Board's subsequent reasoning or by the more recent full participation exercise.

We therefore leave it to the Appeal Board to determine whether our opinion suggests any reason for altering the plant's licensing status. In particular, we have received from petitioners no guidance as to how, if at all, the Appeal Board's ruling in ALAB-918 may bear on the Commission's

decision to allow the authorization of full power operations. Because the full power license necessarily depends upon the resolution of all issues material to low power licensing, including the adequacy of the onsite emergency plan, this question merits the agency's consideration.

III. CONCLUSION

We deny the petitions for review of Seabrook's full power license in Nos. 90-1132 and 90-1218. The Commission's interpretation of its emergency planning regulation does not do violence to the language of the rule and is within the agency's statutory discretion, and the related decision to exclude the Sholly/Beyea testimony was not arbitrary

or capricious or otherwise unlawful. Furthermore, the Commission did not abuse its discretion in allowing the immediate effectiveness of the full power authorization. The decision denying a waiver of the agency's financial qualification exemption is not a final order, and petitioners' challenge to that ruling is not properly before us.

The low power licensing petition in No. 89-1306 is denied in part and granted in part. The Appeal Board acted reasonably in interpreting the scope of petitioners' cooling system contention, and we deny review of ALAB-899. We are, however, unable to conclude that the Appeal Board properly considered petitioners' rights under section 189 when it rejected their onsite exercise

contention. For that reason, we grant the petition for review of ALAB-918 and remand this ruling for reasoned decisionmaking. This conclusion, however, does not give us reason to disturb Seabrook's operating licenses.

So ordered.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kenneth M. Carr, Chairman
Thomas M. Roberts
Kenneth C. Rogers
James R. Curtiss
Forrest J. Remick

In the Matter of	)	
	)	Docket Nos.
PUBLIC SERVICE COMPANY	)	50-443-OL
OF NEW HAMPSHIRE, ET AL.	)	50-444-OL
	)	
	)	Offsite
(Seabrook Station, Units	)	Emergency
I, and 2)	)	Planning

MEMORANDUM AND ORDER
CLI-90- 02

I. Introduction

In ALAB-922, 30 NRC 247, issued on October 11, 1989, the Appeal Board certified a question to the Commission for resolution, pursuant to 10 CFR / 2.785(d), under which the Appeal Board may "certify to the Commission for its

determination major or novel questions of policy, law or procedure." The question certified was the following:

> "Whether the MassAG's [Massachusetts Attorney General's] testimony, which seeks to address the dose reductions/dose consequences that will arise under the NHRERP [New Hampshire Radiological Emergency Response Plan), is admissible as relevant to a determination of whether, in accordance with the Commission's Shoreham guidance, the NHRERP will achieve reasonable and feasible' dose reduction under the circumstances so as to provide 'reasonable assurance that adequate protective measures can and will be taken' in accordance with 10 C.F.R. § 50.47(a)."

30 NRC at 259.

For the reasons which follow, we have determined that the testimony proffered by the Massachusetts Attorney General was admissible neither for the purpose mentioned by the Appeal Board

nor for any other. To explain the basis of our decision requires us to set forth in some detail the context in which the admissibility of the proffered testimony was considered by the two Boards.

II. Proceedings before the Licensing Board

The Massachusetts Attorney General, in a contention first offered in 1983 and resubmitted in 1986, charged that the New Hampshire plan did not, as required by 10 CFR § 50.47(a), provide "reasonable assurance that adequate protective measures can and will be taken" in an emergency, because on a summer weekend, with the nearby beaches densely populated by transients, evacuation would fail to protect persons on the beach under many plausible meterological conditions, and inadequate

provisions had been made for sheltering these persons. The applicants objected to this contention on the grounds, first, that the NRC's emergency planning regulations were not intended to guarantee absolute protection or a given level of protection, and second, that to litigate the contention would in effect be to relitigate the decision to site the plant at Seabrook. The staff opposed the contention to the extent it could be interpreted as seeking to litigate the dose consequences of any specific accident or as asserting that emergency planning must achieve a particular level of dose protection to the public, but would have allowed its admission to the extent it constituted a challenge to the adequacy of the

sheltering provided for the beach population.

The Licensing Board rejected the proposed contention on April 29, 1986. The Commission's rules, it said, did not require a zero risk standard, but rather the development of emergency plans with the flexibility to ensure response to a wide spectrum of accidents. The Massachusetts Attorney General, said the Licensing Board, was seeking to have each of the responses within the range of protective responses provide absolute assurance, whereas the intent of the rules was to assure that any one or a combination of responses would provide the requisite reasonable assurance. The Licensing Board agreed with the staff that particular postulated accidents were inappropriate for litigation, and

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that the regulations did not require that any particular level of radiological does reductions be achieved.

The Massachusetts Attorney General sought review by the Appeal Board, but the Appeal Board, in ALAB-838, 23 NRC 585 (1986), held the appeal to be interlocutory, since Massachusetts could continue to participate in the proceeding as an interested state. As an interested state, therefore, the MassAG tried again in September 1987, offering testimony as to the technical basis for the NRC's emergency planning rules; radiation doses to the public which would result from an accident at Seabrook; the potential for an atmospheric release; and the probable health consequences of the foregoing.

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The MassAG argued that this testimony was germane, since it illuminated the actual level of protection afforded the public, a necessary part of a "reasonable assurance" finding. The regulations, said the MassAG, called for a range of protective measures, but here, the plan did not provide for sheltering. The MassAG urged that while the Board was not required to make specific dose savings findings, or to calculate the number of people who would be injured in an accident, it was nevertheless required to accept evidence on those issues in order to determine the adequacy of the protective measures provided by the emergency plan.

Applicants objected to the offer of proof, arguing that it was an effort to

reintroduce the contention rejected earlier, and that the evidence was irrelevant, since it purported to show dose savings and consequences in absolute terms, whereas the regulation only required a showing that the emergency plan "is designed to achieve reasonable and feasible dose savings given the circumstances of the site in question." The staff agreed with the applicant.

In a bench ruling on November 17, 1987, the Licensing Board determined that the proposed testimony was outside the scope of the Commission's emergency planning requirements, as outlined in three Commission pronouncements on emergency planning. TR 5594. First, the Licensing Board said, the 1983 San Onofre decision (Southern California

Edison, San Onofre Nuclear Generating Station, Units 2 and 3, CLI-83-10, 17 NRC 528, 533), had emphasized that with regard to emergency planning,

> The emphasis is on prudent risk reduction measures. The regulation does not require dedication of resources to handle every possible accident that can be imagined. The concept of the regulation is that there should be core planning, with sufficient planning flexibility to develop a reasonable ad hoc response to those very serious low-probability accidents which could affect the general public.

Second, the Licensing Board looked to the Commission's 1986 decision in Long Island Lighting (Shoreham Nuclear Power Station, Unit 1), CLI-86-13, 24 NRC 22, where the Commission said:

> The root question becomes whether the LILCO plan can provide for "adequate protective measures in the event of a radiological emergency." [Footnote omitted.) ... This root question cannot be answered without some discussion of what is meant by "adequate protective measures." Our emergency

> planning regulations are an important part of the regulatory framework for protecting the public health and safety. But they differ in character from most of our siting and engineering design requirements which are directed at achieving or maintaining a minimum level of public safety protection. See, e.g., 10 C.F.R. § 100.11. Our emergency planning requirements do not require that an adequate plan achieve a preset minimum radiation dose saving or a minimum evacuation time for the plume exposure pathway emergency planning zone in the event of a serious accident. Rather, they attempt to achieve reasonable and feasible dose reduction under the circumstances.

Finally, the Licensing Board cited the then newly issued final rule in the 1987 rulemaking on emergency planning, where the Commission said:

> The final rule makes clear that every Emergency Plan has to be evaluated for adequacy on its own merits, without reference to the specific dose reductions which might be accomplished under the plan, or to the capabilities of any other plan. 52 Federal Register 42078, 42084 (November 3, 1987).

The Licensing Board concluded that the proffered testimony, despite sincere efforts to argue otherwise, involved "specific assumptions of doses, dose consequences, health effects, and the entire array that the Commission stated is not part of consideration." TR 5608.

B. Proceedings before the Appeal Board

The issue of the exclusion of the proffered testimony came before the Appeal Board on its review of the Licensing Board's December 31, 1988 Partial Initial Decision on the New Hamphsire emergency plan. In ALAB-922, issued on October 11, 1989, the Appeal Board provided a different analysis of the issue from that of the Licensing Board. It declared that the focal point of the dispute was where the emergency planning regulations, with their

requirement of "reasonable assurance," fit into the two-tiered regulatory scheme of the Atomic Energy Act. The Appeal Board explained that the Commission's safety regulations are either standards necessary to provide first-tier "adequate protection" (as authorized by Section 182(a) of the Atomic Energy Act) or are second-tier "extra-adequate protection" (measures over and above what is needed for adequate protectior) as authorized by Sections 161(b) and (i) of the Atomic Energy Act. The distinction between the two was recognized, said the Appeal Board, in UCS v. NRC (UCS 1), 824 F.2d 108 (D.C. Cir. 1987).

The intervenors, said the Appeal Board, claimed that 10 CFR § 50.47 was a first-tier "adequate protection"

standard, and that the Commission could not determine whether "adequate protection" was provided without evaluating the degree to which the emergency plan still left the public at risk. This argument, said the Appeal Board, was "promptly dispelled" by an examination of the 1980 rulemaking that promulgated 10 CFR § 50.47. In that rulemaking, the Commission cited as its authority Sections 161(b), (i), and (o) of the Atomic Energy Act. In the Appeal Board's words, "it is hard to imagine a more compelling indication that ... emergency planning requirements are intended to be second-tier, AEA section 161 safety provisions rather than a first-tier, 'adequate protection' requirement under AEA Section 182." 30 NRC at 256-57. Thus the Appeal Board

had "no difficulty" rejecting the intervenors' argument that the proffered testimony was admissible to show that even with the New Hampshire emergency plan in place, operation of the plant presented such risks as to fail the "adequate protection" test. 30 NRC at 257-58.

The Appeal Board found "more compelling" the argument that the evidence should be admitted to show (in accordance with Shoreham's guidance that emergency plans should seek to achieve "reasonable and feasible dose reductions") whether the dose reductions achievable by the New Hampshire plan were "reasonable." Clearly, said the Appeal Board, the reductions would be "feasible," since the plan had been prepared by state officials; but a "more

compelling case" was presented by the argument that those dose reductions would not be "reasonable." if, as contenced by the Massachusetts Attorney General, they would result in little realistic dose reduction and lead to doses with serious health consequences. To this, the Appeal Board noted, applicants and staff answered that all information on dose consequences and dose reductions was beside the point, since the Commission had made clear in Shoreham that no preset dose reductions or evacuation times were called for, and the 1987 rule had declared that plans were to be evaluated for adequacy "without reference to the specific dose reductions which might be accomplished under the plan." 30 NRC at 258, citing 52 Fed. Reg. 42,078, 42,084 (1987).

The Appeal Board thus found itself pulled between what it considered to be two contradictory lines of analysis: Shoreham's emphasis on "reasonable" dose reductions and the "perhaps superseding" guidance of the 1987 rule, in which the determination of 'specific dose reductions" was ruled out. The latter approach, the Appeal Board said, suggested that "given the 'extra-adequate protection' status of emergency planning requirements," review of emergency plans should concentrate not on a subjective judgment of whether the protection afforded to the public is "adequate," but rather on conformance with the requirements of the regulation and the pertinent NRC/FEMA criteria. Accordingly, the Appeal Board certified to the Commission the question of

whether the MassAG's testimony was admissible as relevant to a determination of whether the New Hampshire plan would achieve "reasonable and feasible dose reduction under the circumstances" so as to provide "reasonable assurance that adequate protective measures can and will be taken." 30 NRC at 259.

On October 20, 1989, the Massachusetts Attorney General asked the Appeal Board to reconsider its decision that emergency planning regulations represented a "second-tier" or "extra-adequate" level of protection under Section 161 of the Atomic Energy Act rather than "first-tier" protection under AEA Section 182. The petition urged that the transcript of the 1980 Commission meeting at which the language

of the emergency planning rule was crafted was evidence that the Appeal Board erred on this central point. The Massachusetts Attorney General argued that the citation to Section 161 in the 1980 rulemaking was without significance, and it noted that the Commission's fire protection rule by the NRC's own account a first-tier "adequate protection" standard had been issued under Section 161. The petition also noted that the two-tier theory had not been articulated until years after the 1980 rulemaking on emergency planning. Massachusetts offered a different explanation of the citation to Sections 161(b), (i), and (o): to assure that criminal sanctions set forth in 42 U.S.C. Section 2273 would apply. A

similar petition was filed by the Seacoast Anti-Pollution League.

On October 23, the Appeal Board summarily denied the petitions for reconsideration, on the grounds that the issues raised in them were so linked to those involved in the question certified to the Commission for decision that they should be resolved by the Commission rather than the Appeal Board.

III. Filings of the Parties

In response to a briefing schedule issued by the Commission on October 13 (modified by an extension of time granted to the NRC staff), the parties filed their briefs between October 27 and November 13, 1989. The positions of the parties may be sunnarized as follows.

1. Intervenors

Intervenors assert that the Appeal Board erred when it held, based on the citation to Section 161 of the Atomic Energy Act in the 1980 emergency planning rulemaking, that emergency planning was a second tier, 'extra-adequate" safety measure. The transcript of the 1980 Commission meeting that preceded adoption of the rule makes clear that the key phrase "adequate protective measures" in the regulation was specifically intended to track the phrase "adequate protection" in Section 182 of the AEA. The choice of words was designed to assure that "best efforts' would not be enough, and that energency planning measures would also have to be effective in protecting the public. In recognition that the

discussion was crucial to a correct understanding of the Commission's intent, the Commissioners directed that the transcript be included in the rulemaking record.

According to the intervenors, the Appeal Board, in relying on the citation to Sections 161(b), (i), and (o) -- an issue which the Appeal Board itself raised, none of the parties having done so -- ignored the 1980 Authorization Act in which Congress directed the NRC to develop emergency planning regulations. Although the Commission's final rule in 1980 included a statement that the rule was consistent with the Authorization Act, that Act did not appear in the list of authorities. Thus the list is incomplete on its face. Furthermore, the Commission has named Section 161 as

the sole basis of such safety-based rules as the fire protection rule, cited by the Commission in an appellate brief as an example of a first-tier "adequate protection" backfit. In reality, the citations to Sections 161(b), (i), and (o) simply designate regulations to which criminal penalties under 42 U.S.C. 2273 are intended to apply. Any doubt is eliminated when it is recognized that in the 1980 version of 10 CFR, the General Design Criteria of 10 CFR Part 50, Appendix A, were not described as based on Section 182.

Intervenors claim that the Appeal Board's quotation from the Commission's 1986 Shoreham decision was misplaced. Although some of the quoted language might suggest that emergency planning was not designed to achieve or maintain

a regulatory minimum of protection, the 1980 rulemaking was unambiguous on that point, and it is controlling. Indeed, in 1983 the Commission, in response to a Congressional question, made clear that it saw emergency planning as a matter of adequate protection, not -- as in the days before the TMI accident -- a "secondary but additional measure to be exercised in the unlikely event that an accident would happen."

Likewise, say the intervenors, the Appeal Board should have given no weight to the Commission's statements in the 1987 rulemaking that suggested emergency planning was of second-rank importance. First, the context in which the 1980 Commission spoke of emergency planning as needed to "bolster" other safety measures was one which (as described

above) contrasted the pre-TMI and post-TMI approaches. Moreover, even the Commission in 1987 conceded that it was not possible to resolve the issue of the intended significance of emergency planning through "microscopic" analysis of the 1980 language. As for the 120-day clock, that provision did not reveal a differerice between emergency planning and other safety regulations, but rather a resemblance, in that other types of regulations also do not require automatic shutdown. Moreover, the 1980 regulation reflected a compror,,ise, with new and existing plants handled differently. For new plants such as Seabrook, an adequate emergency plan was essential to operation. In fact, the reason tor the 120-day clock was not a casual view of emergency planning, but

rather a recognition that the NRC did not have the power to compel the cooperation of state and local governments.

In the intervenors' view, the phrase "adequate protective measures' in Section 50.47(a)(1) has a plain meaning that must be acknowledged. The Appeal Board never addressed the intervenors' argument that whatever the Commission thought about emergency planning in 1987, it still considered emergency planning to be part of the first-tier adequate protection framework. The Commission would never have countenanced the huge sums that utilities have spent on emergency planning since 1980 if those requirements were not viewed as necessary for adequate protection. The Appeal Board did not deal with the 1980

Authorization Act, in which Congress made clear that emergency planning was designed to prevent "public endangerment," ie., first tier. In statements to the Congress, Commissioners made clear that they shared Congress' view that emergency planning regulations were in place to assure "adequate protection."

Once it is recognized, say the intervenors, that emergency planning is a first tier safety standard, then there are three different approaches under which the Massachusetts Attorney General's proffered testimony is admissible: (1) to contribute to a case-by-case evaluation of whether the risk posed by operation of Seabrook is acceptable; (2) for a determination of whether a "range of protective

measures," as required by the planning standards of Section 50.47(b), have been provided; and (3) to judge whether the plan achieves "reasonable and feasible dose reductions under the circumstances," to quote the Commission's 1986 Shoreham decision. The phrase "under the circumstances" should be understood to refer simply to the case-by-case nature of the inquiry, not to suggest that a "best efforts" showing is all that is needed. The Commission's November 1987 final emergency planning rule rejected a "best efforts" approach.

Finally, intervenors argue, there is no "exclusionary rule" in NRC proceedings that would bar testimony on dose consequences. The evidence on dose reductions and dose consequences that

the Massachusetts Attorney General has sought to introduce is plainly relevant to the adequacy of the emergency plan. The only way that such obviously relevant evidence could be excluded is the existence of some policy barring its admission. Such an intent might account for the statement in the Commission's November 1987 rule that "every emergency plans is to be evaluated for adequacy on its own merits, without reference to the specific dose reductions which might be accomplished under the plan." It would be irrational, however, for the Commission, without ever having articulated a rational basis for doing so, to say in one breath that it will evaluate a plan's adequacy and in the next that it will not look at evidence plainly relevant to the plan's

adequacy. The NRC has expertise in evaluating dose consequences, which it routinely estimates in a variety of contexts.

For these reasons, intervenors urge, the Commission should reverse the Appeal Board's "second tier" findino and direct the Appeal Board to proceed with its review of LBP-88-32 accordingly. Alternatively, it should go further and indicate that the proffered testimony was relevant and material and should have been admitted.

2. Applicants

The precise question posed by the Appeal Board, say the applicants, was whether the reference in Shoreham to the objective of achieving "reasonable and feasible dose reduction" meant that evidence on dose savings and dose

consequences should be admitted. In the context in which the Commission used that phrase, 'reasonable" referred to dose savings achievatle without disproportionate cost. This position is consistent with San Onofre, CLI-83-10, 17 NRC 528, which said that the emergency planning rules emphasized "prudent" risk reduction measures, not extraordinary measures such as construction of new hospitals. The 1987 amendments to the Commission's emergency planning rules lay to rest any suggestion that the profferred testimony could be admissible. The proposed rule emphasized that the emergency planning rules were flexible, not aimed at achieving preestablished minimum dose savings. The final rule made the same point, declaring that findings as to

precise dose reductions "are never a requirement in the evaluation of emergency plans," and that emergency plans were to be evaluated individually, "without reference to the specific dose reductions which might be accomplished under the plan..... The foregoing demonstrates that the evidence proffered by the intervenors was irrelevant, since all that must be shown to satisfy the NRC's requirements is that the emergency plan is "designed to achieve reasonable and feasible dose savings given the circumstances of the site in question." Once that is shown, it is irrelevant "whether these dose savings will be high or low in absolute terms at a particular site in the circumstances of a given accident or class of accidents."

The Appeal Board was correct, applicants argue, in finding that the NRC's emergency planning rules, having been promulgated under Section 161 of the Atomic Energy Act, constitute "second tier" protection under the two-tier formula described in UCS I. Citations of authority are required by the Administrative Procedure Act, and are not merely some afterthought to which the agency may or may not give consideration. The 1980 Commission transcript on which intervenors rely is at best inconclusive. It does not remove the ambiguity as to the meaning of "adequate protective measures" in the regulation, but it does make clear that the emergency planning rules were not intended as a "site blocking" regulation. Moreover, the 1987

emergency planning rules commented on the "inconsistency" in the Commission's 1980 pronouncements on emergency planning.

According to applicants, the intervenors may be correct in saying that a reference to Section 161 does not necessarily designate a rule as "second tier," but in the case of the emergency planning rules, it is clear that the Commission intended second tier status. The fire protection rule, cited by intervenors as an "obvious example" of a first tier safety regulation which was issued under Section 161, actually demonstrates the opposite. In the list of authorities for Part 50 found at 52 Federal Register 41294, Section 161(b) is cited as authority for Section 50.48, for purposes of 42 U.S.C. Section 2273

(establishing criminal sanctions for violations). Sections 161 and 182 are both cited as authority, for Part 50. Thus the reference in the rulemaking to Section 161(b) was intended to identify § 50.48 as a regulation to which criminal sanctions would apply. With regard to § 50.47, however, the list of authorities for Part 50 does not mention § 50.47 specifically. However, the rulemaking listed Sections 161(b), 161(i), and 161(o). This fact, coupled with the absence of a statement that criminal sanctions would apply to the regulation, demonstrates that the Commission could only have intended § 50.47 to be a second tier regulation.

In the applicants' view, reference to statements made to the Congress by individual Commissioners deserve little

or no weight in determining whether the regulation is first or second tier. More to the point is the distinction which the Commission drew in Shoreham, CLI-86-13, between emergency planning regulations and siting and engineering design requirements "which are directed at achieving or maintaining a minimum level of public safety protection." such as 10 CFR § 100.11, which establishes the exclusion area and low population zone in terms of doses to individuals. This language clearly shows emergency planning regulations to be second tier.

Finally, say the applicants, the discussion in the Comission's 1987 proposed rulemaking makes clear that any ambiguity was to be resolved in favor of calling emergency planning rules second tier. The final rule made the further

point that the 120-day clock in the 1980 rule showed the second tier status of emergency planning requirements.

3. NRC Staff

According to the NRC staff, the Commission's regulations -- the plain wording of Section, 50.47(a)(1), the pertinent administrative history, and prior Commission interpretations -- all demonstrate that the Licensing Board was correct in excluding the proferred testimony. The regulation calls for determinations by FEMA on the adequacy and implementability of offsite plans, in accordance with planning standards of Section 50.47(b). The regulation does not provide for a dose reduction/dose consequences analysis, but rather for a review of the plans against the standards to see if they are adequate

and implementable. The Statement of Considerations of the 1980 rule did not indicate that there was to be any examination of radiological doses and consequences. The Commission there recognized that FEMA was best suited to assess offsite emergency preparedness. The NRC final rule restated, and cited, the guidance of NUREG-0654/FEMA-REP-1, which states that the planning basis for the standards was a spectrum of accidents, independent of specific accident sequences. Thus the Commission intended that individual licensing cases look at conformance with the standards, not at particular accident sequences or their consequences.

The NRC staff asserts that in San Onofre, CLI-83-10, 17 NRC 528 (1983), the Commission refuted the concept that

dose reduction calculations are needed or relevant. In Shoreham, the Commission focused on "reasonable and feasible dose reductions under the circumstances," not on achieving "a preset minimum radiation dose saving or a minimum evacuation time." This was a plain indication that there was to be no consideration of absolute dose reduction or consequences at particular sites. While Shoreham could be read in the manner outlined by the Appeal board to allow dose savings and consequences to be litigated as part of determining whether dose reductions achieved by a plan are "reasonable," the decision, when read in context, emphasizes that plans are to be judged against "standards" rather than on the basis of dose and risk calculations. That point

was reiterated several times in the 1987 final rule on emergency planning. That same rule made clear that plans were to be judged without reference to the specific dose reductions that might be accomplished under a particular plan.

It is immaterial, says the NRC staff, whether emergency planning is a first tier or second tier regulation, for in either case, the proffered testimony was irrelevant. Intervenors' emphasis on emergency planning as a first tier, adequate protection standard seens to be based on the misconception that if the regulation is first tier, dose calculations are required to determine the adequacy of emergency plans. In fact, whether the regulation was adopted under Section 161 of the AEA (as these were) or Section 182, the

Commission's regulations do not call for dose calculations, but rather for conformity with standards set out in the regulations. In this regard they are like many of the Commission's most basic safety regulations, such as emergency core cooling standards and quality assurance requirements. If the intervenors wished to challenge the adequacy of the rule, they could have petitioned for a rule change, and they could have asked for a waiver of the rule in this case. Instead, they are attempting to engraft onto the rule requirements over and above those established by the Commission.

To answer the certified question directly, the NRC staff maintains, the phrase "reasonable and feasible dose reductions under the circumstances" in

Shoreham envisioned testimony not on dose projections and dose consequences, but on reasonable and feasible methods of dose reduction for a particular site under the circumstances existing there. The Licensing Board received such testimony and concluded, as had FEMA, that the New Hampshire emergency plan provided "for a range of protective actions."

IV. Discussion

1. "First Tier" vs. "Second Tier"

In approaching the issues presented by the certified question, it may be useful to begin by addressing, as a threshold matter, the Appeal Board's finding that emergency planning is a second-tier, "extra-adequate' protection requirement. We do so for the sake of clarifying this area of the Commission's

regulations, not because it is necessary to our decision. We agree with the NRC Staff that for the purpose of deciding whether the Massachusetts Attorney General's proffered testimony should have been admitted, it is immaterial whether the emergency planning regulations are considered first tier or second tier.

The issue of what the Commission intended when it put the emergency planning rule in place was discussed extensively in the proposed and final 1987 emergency planning rules and their Statements of Considerations. In the March 1987 proposed rule (52 Fed. Reg. 6980), the Commission commented on the inconsistency between some of the language of the 1980 rulemaking and the regulatory scheme that it actually put

in place. Writing after the promulgation of the backfit rule, the Commission in its March 1987 notice also squarely posed the question whether emergency planning should be considered first tier or second tier protection:

> On the one hand, the Commission stated that the new requirements, as well as proper siting and engineered safety features, were needed to protect public health and safety. Taken in isolation, these statements can be read as evidencing a Commission decision that emergency planning and preparedness as provided in those revised rules were to be treated as matters essential to safe operation of nuclear facilities and therefore to be imposed rigorously without regard to equity or cost.
>
> On the other hand, the Commission rejected an option in the rulemaking that could have led to automatic plant shutdown if adequate plans were not filed because of commenters' concerns about "unnecessarily harsh economic and social consequences to State and local governments, utilities, and the public." Operating plants were given very substantial grace periods .... These provisions are

> not consistent with the concept that emergency planning and preparedness are as important to safety as such engineered safeguards as reactor containments or emergency core cooling systems. ... Rather, these provisions reflect a different concept -- that adequate emergency planning and preparedness are needed and important, but that they represent an additional level of public protection that comes into play only after all of the other safely requirements for plant design, quality construction, and careful, disciplined operation have been considered, and that therefore some regulatory flexibility is warranted and the costs associated with alternative approaches may be taken into account.

The Commission's notice asked for comment on which of the two approaches should be followed:

> a relatively inflexible one, that will require adequate planning and prtparedness with little or no concern for fairness or cost; or a more flexible one that focuses on what kind of accident riitigation (dose reduction to the public in the event of an

> accident) can be reasonably and feasibly accomplished, considering all of the circumstances. If sound safety reg-uration requires the former, then no rule change is warranted. If the latter, then a change would be in order.... ,in other words, the Comnission's March 1987 proposed rule recognized explicitly that to move from an "adequate protection" standard to a "second tier" or backfit standard, a rule change would be needed.

The Commission's November 1987 final rule, 52 Fed. Reg. 42078, disavoy,ed any interit xo move from the fornier to the latter approach. The Commission began its answer to the question, "Is emergency planning as important to safety as proper plant design and operation?", by declaring:

> First of all, this issue does not have to be addressed in the context of the final rule announced in this notice, since the present rule

> involves no redrawing by NRC of the balance between emergency planning and other provisions for the protection of health and safety.

The Commision then went on to discuss the words used in the 1980 rule, noting that in places, emergency planning was desibribed as "essential" and "needed," whereas elsewhere emergency planning was described as "bolstering" the protection offered by engineered design features. The issue, said the Commission, could not be resolved definitively by "microscopic analysis" of the language of the 1980 notice. More relevant, said the Commission, was the regulatory structure put in place, in particular the "120-day clock":

> In 10 CFR 50.54(s)(2)(ii), the Commission provided that if it "finds that the state of emergency preparedness does

not provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency . . . and if the deficiencies . . . are not corrected within four months of that finding, the Commission will determine whether the reactor shall be shut down until such deficiencies are remedied or whether other enforcement action is appropriate. In other words, a plant ordinarily may operate for at least four months with deficiencies in emergency planning before the NRC is required even to decide whether remedial action should be taken. . . . at the time that the Commission created the so-called "120-day clock" for deficiencies in emergency planning, it was settled Commission law (and remains so today) that the NRc must issue an order directing a license to show cause why its license should not be modified, revoked, or suspended whenever it concludes that "substantial health or safety issues ha[ve] been raised about the activities authorized by the license. . . . in the context of that standard, the 120-day clock provision for emergency planning

> deficiencies amounts to a Commission finding that, at least for the first 120 days, even a major deficiency in emergency planning does not automatically raise a "substantial health or safety issue" with regard to plant operation. By contrast, a major safety deficiency relating to emergency conditions -- for example, the availability of the emergency core cooling system -- would warrant inirtiediate shutdown.
>
> In sum, despite language indicating that emergency planning was "essential," the Commission in 1980 created a regulatory structure in which emergency planning was treated somewhat differently, in terms of the corrective actions to be taken when deficiencies are identified from the engineered safety features ("hardware") that would be relied on in an emergency.

The foregoing discussion from the 1987 final rule helps to clarify the real nature of the issue in dispute. The relevant consideration is not whether emergency, planning as a general

matter is a part of "adequate protection" or of "extra-adequate protection." The Commission's rulemakings of 1980 and 1987 establish that it is the former. (We do not share the Appeal Board's view of the significance of the citation to Section 161 in the 1980 rulemaking.) To frame the issue in terms of a simple choice between "adequate" and "extra-adequate" protection is to lose sight of the reality that when the Commission enumerates the many individual safety issues which must be resolved in order to find "adequate protection," it is not thereby declaring that all those component issues are of equal safety significance, or that the same standards for demonstrating compliance are applicable to all.

For illustration, one need only consider the gamut of issues presented in 10 CFR 50.34(b), dealing with the Final Safety Analysis Report. These include: a description of the reactor coolant system, instrumentation and control systems, electrical systems, containment system, and other engineered safety features (50.34(b)(2)(i)); the applicant's organizational structure and personnel qualifications requirements (50.34(b)(6)(i)); plans for conduct of normal operations, including maintenance, surveillance, and periodic testing of structures, systems, and components (50.34(b)(6)(iv)); plans for coping with emergencies (50.34(b)(6)(v)); a description of the operator requalification program (50.34(b)(8)); a description of

protection provided against pressurized thermal shock events, including projected values of the reference termperature for reactor vessel beltline materials (50.34(b)(9)); plans for physical security at the facility (50.34(c)); and safeguards contingency plans for dealing with threats, thefts, and sabotage (50.34(d)). Plainly, each of these component determinations has safety significance, and since none can be dispensed with, all can be called "essential"; but no one would claim that each is of identical weight in contributing to public protection. Nor would anyone assert that the same type of analysis is appropriate for each. Necessarily, the kind of highly technical inquiry appropriate to determining the adequacy of the plant's

hardware will not resemble either the "human factors" analysis applied to the utility's operator requalification program, or the predictive judgments required for a decision on safeguards contingency plans.

The real issue, therefore, is not a judgment in the abstract about the place of emergency planning in the hierarchy of safety standards, or an exercise in semantics about the meaning of the word "essential." (So that there may be no misuriderstanding, let us make clear that adequate emergency planning is "essential," just as adequate lifeboats are essential for a liner carrying passengers at sea. But it is only common sense to acknowledge that emergency plans, like lifeboats, are a backstop, a second or third line of

defense that comes into play only in the extremely rare circumstance that engineered design features and human capacity to take corrective action have both failed to avert a serious mishap.) For our purposes today, the real issue is a much more straightforward question: what is the nature of the inquiry that the Commission, in recognition of the fact that emergency planning involves predicting the ability to respond to the unpredictable, has put in place for determining whether "adequacy," i.e., compliance with the Commission's emergency planning regulations, has been established?

2. How Adequacy is Determined

The Commission's emergency planning requirements are not obscure. In the text of the regulations, in rulemakings on the subject of emergency planning, and in adjudicatory decisions interpreting those regulations, the Commission has made clear that judgments on the adequacy of emergency planning are to be based on conformity with the 16 planning standards set forth in 10 CFR / 50.47(b). [Footnote in original]

110 CFR § 50.47(b) provides:

> The onsite and, except as provided in paragraph (d) of this section, off-site emergency response plans for nuclear power reactors must meet the following standards:
>
> (1) Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various

supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

(2) On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

(3) Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

(4) A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information

provided by facility licensees for determinations of minimum initial offsite response measures.

(5) Procedures have been established for notification, by the licensee, of state and local response organizations and for notification of emergency personnel by all organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

(6) Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

(7) Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated

dissemination of information to the public are established.

(8) Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

(9) Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

(10) A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

(11) Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

(12) Arrangements are made for medical services for contaminated injured individuals.

(13) General plans for recovery and reentry are developed.

(14) Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

(15) Radiological emergency response training is provided to those who n)ay be called on to assist in an emergency.

(16) Responsibilities for plan developr,*nt and review and for distribution of emergency plans are established, and planners are properly trained.

For offsite planning, the regulations provide that the Federal Emergency Management Agency (FEMA) shall make "findinas and determinations as to whether State and local emergency plans are adequate and whether there is

reasonable assurance that they can be implemented." 10 CFR / 50.47(a)(2). This FEMA finding "will primarily be based on a review of the plans." Id. The same regulation also provides that "[i]n any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability." 10 CFR § 50.47(c), which states that the Commission may decline to issue an operating license in case of "[f]ailure to meet the applicable standards set forth in paragraph (b) of this section," reinforces the point that adequacy is to be judged by conformity with the planning standards. Nothing in the regulation contains any suggestion that calculations of dose consequences are intended to play a role in the

evaluation of a plan's adequacy.

As the NRC staff pointed out in its brief, the 1980 rulemaking was in part a restatement of the guidance developed jointly by NRC and FEMA in NUREG-0654/FEF,A-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." That document, frequently quoted and relied upon in the 1980 rulemaking, states in part:

> The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce offsite doses in excess of Protective Action Cuides (PAGs). No single specific accident sequence should be isolated as the one for which to plan because each accident could have different consequences, both in nature and degree. Further, the range of possible

> selection for a planning basis is very large, starting with a zero point of requiring no planning at all because significant offsite radiological accident consequences are unlikely to occur, to planning for the worst possible accident, regardless of its extremely low likelihood. The NRC/EPA Task Force did not attempt to define a single accident sequence or even a limited number of sequences. Rather, it identified the bounds of the parameters for which planning is recommended, based upon knowledge of the potential consequences, timing, and release characteristics of a spectrum of accidents. Although the selected planning basis is independent of specific accident sequences, a number of accident descriptions were considered in the development of the guidance, including the core melt accident release categories of the Reactor Safety Study. At 6-7 (footnotes omitted).

In other words, consideration of specific accident sequences and their potential dose consequences has been

rendered unnecessary by the promulgation of generic guidance that incorporates and synthesizes data on a range of accidents and their consequences. Thus the seeming anomaly of excluding proffered evidence on dose consequences, where the objective of the inquiry is to reduce dose consequences, is in fact no anomaly at all. For it is by applying the generic guidance of the regulation's 16 standards to the review of individual emergency plans -- not by attempting to predict the effects of particular hypothetical accidents occurring under particular hypothetical conditions of weather, time of year, and time of day -- that the NRC satisfies itself that the goal of achieving dose reductions is met.

The Commission interpreted and explained its emergency planning requirements in the 1983 San Onofre decision, where it said:

> Since a range of accidents with widely differing consequences can be postulated, the regulation does not depend on the assumption that a particular type of accident may or will occur. In fact, no specific accident sequences should be specified because each accident could have different consequences both in nature and degree. Although the emergency planning basis is independent of specific accident sequences, a number of accident descriptions were considered in development of the Commission's regulations, including the core melt accident release categories of the Reactor Satety Study (WASH-1400). (Footnote omitted.)

Southern California Edison Co., (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 NRC 528, 533 (1983).

The Comission further explained:

> It was never the intent of the regulation to require directly or indirectly that state and local governments adopt extraordinary measures, such as construction of additional hospitals or recruitment of substantial additional medical personnel, just to deal with nuclear plant accidents. The emphasis is on prudent risk reduction measures. The regulation does not require dedication of resources to handle every possible accident that can be imagined. The concept of the regulation is that there should be core planning with sufficient planning flexibility to develop a reasonable ad hoc response to those very serious low probability-accidents which could affect the general public.

In the 1986 Shoreham decision, CLI-86-13, 24 NRC 22, the Commission discussed the emergency planning regulations in language which appears to have left the Appeal Board with some uncertainty as to the nature of the inquiry called for. Among other things, the Commission said:

> Our emergency planning requirements do not require that an adequate plan achieve a preset minium radiation dose saving or a minimum evacuation time for the plume exposure pathway emergency planning zone in the event of a serious accident. Rather, they attempt to achieve reasonable and feasible dose reduction under the circumstances; what may be reasonable or feasible for one site may not be for another. 24 NRC 22, 30.

Referring to the fact that State and local governments were not participating in emergency planning for Shoreham, the Commission continued:

> But what should we regard as reasonable and feasible for Shoreham, where the governments refuse to cooperate? ... We could conceivably define what is reasonable and feasible dose reduction for Shoreham solely in terms of what LILCO itself can reasonably and feasibly achieve, but we are not prepared to do so. Rather, we might look favorably on the LILCO plan if there was reasonable assurance that it was capable of achieving dose reductions in the event of an accident that are generally comparable to what miaht be accomplished with government cooperation. ... In sum, we conclude that LILCO's plan should be measured against a standard that would require protective measures that are generally couparable to what might be accomplished with governmental cooperation.

24 NRC 22, 30, 32.

Recognizing that the language just quoted lent itself to the interpretation that findings on dose reductions are a part of the emergency planning inquiry, the Commission soon provided a clarification. In the final emergency planning rule, 52 Federal Register 42078 (November 3, 1987), the Commission stated:

The Commission currently believes that the planning standards of 10 CFR 50.47(b), which are used to evaluate a state or local plan, also provide an appropriate framework to evaluate a utility plan. Therefore ... a utility plan ... will be evaluated for adequacy against the sane standards used to evaluate a state or local plan.

The approach reflected in this rule amplifies and clarifies the guidance provided in the Commission's decision in Long Island Lighting Co., (Shoreham, Nuclear Power Station, Unit--I), CLI-BE-13, 24 NRC 22 (1986). ... That decision ... included larguage which could be interpreted as envisioning that the NRC must estimate the radiological dose reductions which a utility plan would achieve, compare them with the radiological dose reductions which would be achieved if there were a state or local plan with full

state and local participation in emergency planning, and permit licensing only if the dose reductions are literally comparable." Such an interpretation would be contrary to NRC practice, under which emergency plans are evaluated for adequacy without reference to numerical dose reductions which would be accomplished and without comparing them to other emergency plans, real or hypothetical. The final rule makes clear that every emergency plan is to be evaluated for adequacy on its own merits, without rererence to the specific dose reductions which might be accomplpished under the plan or to the capabilities of any other plan. It further makes clear that a finding of adequacy for any plan is to be considered generally comparable to a finding of adequacy for any other plan. (Emphasis added.)

52 Federal Register 42078, 42084-85.

Thus to the extent that Shoreham suggested that evidence might be taken on dose consequences, the guidance in the 1987 final rule superseded it completely. The final rule should have left little room for doubt as to the Commission's intent, which may be summarized as follows: Emergency plans are to be evaluated on their own merits, against the 16 planning standards of 10 CFR 50.47(b), with presumptive validity accorded to FEMA's expert judgments on offsite planning; that the evaluation does not entail consideration of the dose consequences that might be calculated under various hypothetical circumstances; and that a plan judged adequate against these planning standards is considered generally comparable to any other plan that has been found adequate.

Consistent with that guidance, we find that the Licensing Board acted correctly in excluding the proffered testimony. The Appeal Board, in suggesting that the testimony might be admissible for the purpose of determining whether "reasonable and feasible" dose reductions are accomplished by a plan, may have confused the objective of the emergency planning inquiry with the means used to accomplish the objective. The objective, plainly, is the achievement of reasonable and feasible dose reductions in the event of an accident. But the means which the Commmission has determined to use is an evaluation of emergency plans against the 16 planning standards developed by NRC and FEMA.

That determination, made by rule, is not for individual adjudicatory boards to alter. Parties dissatisfied with that approach may petition to change the rule, or they may attempt, by requesting a waiver of the rule, to show why it should not be applied to a particular case. The parties before us have chosen reeither of those courses of action. Accordingly, we find that there was no purpose for which the proffered testimony was admissible.

In concluding, we wish to make clear that this opinion does not decide whether emergency planning at Seabrook is adequate, nor whether that facility should receive a license to operate at full power. Rather, it provides, in accordance with our procedures for directed certification, guidance as to

how, under the Commission's rules, determinations on the adequacy of emergency planning are to be made.

It is so ORDERED.

90 Nos. 1657

APR 25 1991

OFFICE OF THE CLERK

In the Supreme Court of the United States.

October Term, 1990

COMMONWEALTH OF MASSACHUSETTS
SEACOAST ANTI POLLUTION LEAGUE,
NEW ENGLAND COALITION ON
NUCLEAR POLLUTION, TOWN OF HAMPTON
Petitioners,

v.

NUCLEAR REGULATORY COMMISSION, et al.
Respondents.

Appendix to Petition
for a Writ of Certiorari to the
United States Court of Appeals for
the District of Columbia Circuit
Volume II

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Kenneth M. Carr, Chairman
Thomas M. Roberts
Kenneth C. Rogers
James R. Curtiss
Forrest J. Remick

In the Matter of	)	
	)	Docket Nos.
PUBLIC SERVICE COMPANY	)	50-443-OL
OF NEW HAMPSHIRE, ET AL.	)	50-444-OL
	)	
	)	Offsite
(Seabrook Station, Units	)	Emergency
I and 2)	)	Planning

MEMORANDUM AND ORDER
CLI-90- 03

1. Introduction

In the decision that follows, we decide to allow the Atomic Safety and Licensing Board's authorization of a full power license for the Seabrook Nuclear Power Station Unit I to become effective under our regulations during

the pendency of further appeals and other administrative proceedings.

The complicated procedural context in which this decision takes place requires some explanation, for we act today both in an adjudicatory and a non-adjudicatory capacity. As is well known, Seabrook is an adjudicatory proceeding, in which contested issues are resolved in court-type proceedings through a hierarchy of administrative tribunals: the Atomic Safety and Licensing Board, the Atomic Safety and Licensing Appeal Board, and ultimately the Commission. Those proceedings have been extensive, having commenced in the 1970's with applications to build Seabrook, and are continuing into the 1990's. The Seabrook operating license has been in litigation since 1981. The evidentiary hearings on emergency

planning issues alone, which began in 1986, totalled over a hundred days and fill transcript pages numbered in the tens of thousands. Where, as in these proceedings, issues are contested, the Commission acts in a quasi-judicial role and is therefore barred from communicating with the NRC staff (or any other party) relevant to the merits of the proceeding except upon the record of the proceeding, with reasonable prior notice to all parties.

Operating license hearings do not address all issues germane to a facility's readiness to operate, however, only those raised by a party to the proceeding. (The rules also establish standards for the admission of contentions.) To the extent that matters pertinent to the licensing decision are not part of the adjudication, the

responsibility for their resolution lies with the NRC's technical staff. When the NRC staff acts in this capacity, as a regulatory decisionmaker, it is subject to the supervisory authority of the Commission, and the restrictions that attend adjudicatory decisionmaking do not apply.

The NRC's rules provide one extra step in the oversight of licensing decisions, the "immediate effectiveness review." To explain, when an Atomic Safety and Licensing Board authorizes the issuance of a license, that decision, like that of a trial court, need not await the completion of all appeals to become effective. (As with courts, the Commission's adjudicatory procedures allow a party to file a motion for a stay of an adverse

decision.) Where the Commission's procedures differ from those of courts is that regardless of whether a stay request is filed, the Commission also conducts an "immediate effectiveness' review under 10 C.F.R. §2.764, to determine whether the Licensing Board's decision should be allowed to take effect. The "immediate effectiveness" review is largely informal, relying on the existing adjudicatory record and parties' written comments, and it is without prejudice to later adjudicatory resolution of issues still in controversy. As a rule, the effectiveness review examines the reasonableness of the Licensing Board's decision without reaching any formal and final decision that no further review

and revision of the decision could ever be required.

Today's decision therefore includes both adjudicatory and non-adjudicatory elements, divided into three sections following this one. In Section II we address, in an adjudicatory context, motions to revoke or vacate the Licensing Board's authorization of an operating license, and we deny those motions. In Section III, we conduct the "immediate effectiveness review" of contested issues described above. We also discuss, in a non-adjudicatory context, certain uncontested issues. We decide in favor of license issuance. Finally, in Section IV, we rule on stay motions, again in an adjudicatory context, and find that the moving

parties have not demonstrated their entitlement to a stay.

Today we also respond by separate opinion to an emergency planning question certified to us on October 11, 1989 by the Appeal Board in ALAB-922, 30 NRC 247 (1989); that response, which is in an adjudicatory context, forms an important part of conclusions regarding emergency planning for Seabrook.

In sum, our action today is to allow the Licensing Board's decisions to take effect, and thus to permit the licensing of the Seabrook plant -with, however, the recognition that administrative appeal processes (in which later, review of the Licensing Board's decision will take place) will continue.

II. Motions to Revoke or Vacate the Licensing Board's Decision

A. Background

1. Procedural Setting

All contested issues in the adjudicatory proceeding on the application for a full power license for Seabrook have now been finally resolved by the Commission, except for issues regarding emergency planning.1

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1 The active parties to the emergency planning phase of the proceeding are the Applicants, of which Public Service Company of New Hampshire (PSNH) is the lead owner, the NRC staff (Staff), and intervenors: the Attorney General of New Hampshire, the Attorney General of the Commonwealth of Massachusetts (MassAG), the Seacoast Anti-Pollution League (SAPL), the New England Coalition on Nuclear Pollution (NECNP), the Massachusetts towns of Amesbury, Newbury, Salisbury and the City of Newburyport (CON) and the New Hampshire towns of Hampton (TOH), Hampton Falls, South Hampton, Rye and Kensington. Hereinafter, the term "Intervenors" will be used for convenience to refer to group positions including MassAG, SAPL,

NECNP and others opposing the license, even though they do not specifically include all intervening parties.

The offsite emergency planning portion of the proceeding was bifurcated in order to commence hearings on the emergency plan for the New Hampshire portion of the plume exposure pathway emergency planning zone (EPZ), which had earlier been developed by the state of New Hampshire and submitted for Federal Emergency Management Agency (FEMA) review, without waiting for submittal and review of the plan for the Massachusetts portion of the EPZ - the Seabrook Plan for Massachusetts Communities (SPMC). A later hearing was held on the SPMC, which was developed and submitted by the utility in the absence of a willingness of Massachusetts' state and local

governments to provide such a plan.2

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2 In addition, one discrete issue was tried by the so-called "onsite"Board which had considered the adequacy of Applicants' onsite emergency planning as a part of the low-power decision. That issue dealt with the adequacy of the Vehicular Alert Notification System that Applicants provided in light of its inability to rely on local siren systems. The issue was decided in favor of license issuance. LBP 89-17, 29 NRC 519 (1989). The Appeal Board is presently considering Intervenors' appeal of this issue.

The hearing on the SPMC was also combined with a hearing on contentions submitted as a result of the full participation exercise conducted in June, 1988.

On December 30, 1988, the Licensing Board issued a partial initial decision finding that the New Hampshire Radiological Emergency Response Plan (NHRERP) satisfied NRC regulations and provided reasonable assurance that

adequate protective measures can and will be taken in the event of a radiological emergency (NHRERP decision).3

3/ The Board retained jurisdiction over an issue relating to evacuation time estimates for later resolution. It resolved this issue in LBP-89-32.

LBP-88-32, 28 NRC 667 (1988). Appeals were taken from that decision and were briefed and argued before the Appeal Board while the proceedings on the SPMC and on the June 1988 exercise were ongoing.

In mid-October 1989, in the course of reviewing the NHRERP decision, the Appeal Board certified a question to the Commission reflecting uncertainty on the part of the Appeal Board on the standard to be applied in judging emergency planning matters. ALAB-922, 30 NRC at

259. (As previously noted, the Commission responds to that question today in a separate opinion.) The Appeal Board followed the certification with a decision on November 7, 1989 disposing of certain appeals from the Licensing Board's NHRERP order. ALAB-924, 30 NRC --- (1989). ALAB-924 affirmed the NHRERP decision on all but four of the issues taken up, and on those it reversed and remanded. Two days thereafter the Licensing Board issued a 571-page opinion detailing its findings and rulings on the SPMC and exercise litigation (SPMC decision). LBP 89-32, 30 NRC--(1989). In sum, the Board found the requisite reasonable assurance was provided by the SPMC and also resolved the exercise contentions in favor of license issuance. In the concluding

pages of that order the Board stated:

> 13.8 Upon the issuance of LBP-88-32 and the issuance of this Partial Initial Decision, this Board would have decided all issues remaining in controversy in the Seabrook operating license proceeding. However, on November 7, 1989, the Appeal Board remanded to this Board certain issues decided in LBP-88-32 with respect to the NHRERP. (citing ALAB-924).
>
> 13.9 The Board has carefully read ALAB-924, evaluated the remanded issues, and studied the Appeal Board's directions

to this Board. We conclude that those issues and directions do not preclude the immediate issuance of an operating license for the Seabrook Station.87

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87 The Board will issue a memorandum following the issuance of this Partial Initial Decision explaining why ALAB-924 does not preclude the issuance of an operating license. Our explanations will include for example, the observation that the remanded issues do not involve significant safety or regulatory matters when considered in the context of the record of the NHRERP proceeding; our ultimate conclusions that the NHRERP provides reasonable assurance that adequate protective measures can and will be taken are not changed; the record of the NHRERP proceeding need not be reopened to resolve some inconsistencies and voids found by the Appeal Board, and that any needed implementing actions can be readily and promptly taken We shall also explain why the pendency of several motions to submit new contentions does not preclude the issuance of the operating license.

LBP-89-32 at 569.

Without delay, Intervenors MassAG, SAPL and NECNP moved the Appeal Board to vacate those portions of the SPMC decision which authorized the license.4 On November 14 the Appeal Board said that "consideration Of intervenors' motion can and should await the Licensing Board's promised explanation of the reasons why licensing authorization is appropriate, which undoubtedly will include some explanation of the relevance of 10 C.F.R. § 50.47(c)(1)." Appeal Board Order (unpublished), November 14, 1989 at 2. The Appeal Board established a schedule consistent with that view. By order of November 16, 1989 the Commission announced that "[a]lthough the Appeal Board..[had] ... set forth a schedule for future filings on

intervenors' motion, that motion will be decided by the Commission." Commission Order of November 16, 1989 at 2.5. In the same order the Commission said that the Commission itself would consider all applications for a stay of effectiveness of LPB-89-32. (We address later in this section Intervenors' challenges to this procedure.) On November 20, 1989 the Licensing Board issued a supplemental decision containing detailed findings in support of its earlier conclusion that the four remanded Issues did not prevent authorization of a full power license. LBP-89-33, 30 NRC (1989).

On December 1, 1989, Intervenors filed their 82-page supplemental motion and memorandum in support of their motion to revoke or vacate the license authorization.

4 The motion was filed with the Appeal Board on November 9, 1989; appeals of the Licensing Board's findings with respect to the SPMC and exercise have been taken.

5 By motion dated November 17, 1989, Intervenors sought reconsideration of the Commission's November 16 order. The motion is hereby denied except insofar as the Comission has previously granted portions of it.

2. Positions of the parties

Seeking revocation or vacation of LBP-89-32's authorization of license issuance, Intervenors essentially argue that the Appeal Board's reversal and remand in ALAB-924 divested the Licensing Board of power to authorize a license and that Intervenors have rights to a hearing on the remanded matters before a license can issue. In addition, they argue that the Licensing Board acted illegally in not awaiting the resolution of other pending matters

before authorizing a license. Those matters include motions seeking to litigate contentions on the September 27, 1989 onsite exercise (onsite exercise contention) and on the adequacy of the emergency notification system (EBS contention) the Commission's pending response on the question certifies in ALAB-922 (certified question), and the Intervenors' request for hearings on any decisions under § 50.47(c). Intervenors also assert that the Licensing Board erred in not conforming its SPMC decision to ALAB-924 in two particulars --- need for agreements with teachers and need for individual evacuation time estimates for special facilities-- where Intervenors say they made identical claims of deficiencies in both the hearing on the

NHRERP and the hearing on the SPMC and had been successful before the Appeal Board regarding the NHRERP. They also allege that the assumption of jurisdiction by the Commission over Intervenors' motion to vacate was legal error.

The Applicants argue that the Appeal Board's remand did not per se preclude license issuance. They also argue that even were the Appeal Board correct in ordering the remand on each of the four matters, a license can still properly issue pursuant 50.47(c)(1). Finally, they argue that the Appeal Board erred in requiring the remands. 6

The Staff also counters Intervenors' arguments by stating that the Intervenors mischaracterize the remand and the requirements placed on

the Licensing Board by the Appeal Board. The Staff maintains that in cases where the Appeal Board has found that further hearings are required, its mandate has been explicit and that the Licensing Board here reasonably and correctly "inferred that the remand order included 'traditional broad discretion' in resolving the issues, including a determination of whether the remanded issues were amenable to post-licensing resolution." Staff Response to Motion to Vacate, dated December 12, 1989 at 10, citing LBP-89-33 at 3-6. They also argue that the state of the record is sufficient to support the Licensing Board's finding of "reasonable assurance" and that 50.47(c) specifically recognizes that a license may be granted even in the face

of some deficiencies so long as they are not significant. Staff further argues that the "fundamental flaw" standard that is applied to contentions on emergency planning exercises is applicable to any decision on emergency planning, "for 'only fundamental flaws are material licensing issues." NRC Staff Response to Motion to Vacate, at 18, citing Long Island Lighting Co. (Shoreham Nuclear Power Plant, Unit 1), CLI-86-11, 23 NRC 577, 581 (1986).

6 Applicants have petitioned the Commission for review of ALAB-924, as have Intervenors. The Commission has not yet decided whether to accept review.

B Commission Decision

1. Commission's Authority to Make this Decision

At the outset it is worth emphasizing that the Commission has acted properly and in accord with

long-standing practice in electing to consider the instant motion as well as Seabrook stay motions itself, as opposed to delegating such decisional authority to the Appeal Board. The Appeal Board acts only on authority delegated by the Commission; the Commission is responsible for its adjudicatory boards; and by regulation and a long line of case-precedent, the Commission has explicitly retained supervisory power to step in at any stage of a proceeding to decide any matter itself.7/

7/ See 10 C.F.R. § 2.764 (e)(3)(i) and (f)(2)(i); e.g., Public Service Company of New Hampshire, CLI-77-8, 5 NRC 503, 516 (1977)

The Commission's "authority to intervene and provide guidance in a pending proceeding is not limited by the terms of 10 C.F.P. § 2.768(a)

[regulation stating the ordinary practice for review]." 5 NRC at 516. The Convoission has inherent supervisory authority over adjudicatory proceedings, and "there is every reason why the Commission should be empowered to step into a proceeding..."8

8/ United States Energy Research and Development Administration (Clinch River Breeder Reactor Plant), CLI-76-13, 4 NRC 67, 75-76 (1970), quoted in CLI-77-8, 5 NRC at 516.

The motivation for the Commission to reserve matters to itself can derive from practicality and the need to avoid confusion where matters before the Appeal Board may be so intertwined with matters before the Commission that they should be decided together. Such a circumstance occurred in the low-power license stage of this very proceeding. See CLI-88-9, 28 NRC 567, 601 (1988)

(directing that any stay motions should be lodged with the Commission itself). A like motivaton governed the Commission's action here.

2. The Appropriateness of Relief In the Nature of Mandamus

Intervenors characterize the "immediate mandatory relief" they seek as "essentially a writ of mandamus."9

9/ The Comission grants Intervenors' "Motion for Leave to File a Supplemental Brief in Support of their November 13 and December 1, 1989 Motions for Mandatory Relief", darea January 16, 1990. The Comission has considered the brief in reaching this decision.

Supplemental Motion at 4. As Intervenors note, our rules do not expressly provide for such a mandate. Nonetheless, we would be willing to grant relief of this sort in appropriate circunstances. Borrowing from judicial case-law on mandamus, it is clear that

such "drastic" relief is warranted only in unusual circumstances. In Re: Thornburgh. 869 F.2d 1503, 1508 (D.C. Cir. 1989). Moreover, relief in the nature of mandamus is available only whtre there is a failure to obey a clear direction to perform a nondiscretionary duty and where no other relief is available. Garem. v. Heckler, 746 F.2d 849, 652 (D.C. Cir. 1984). The issue before us then is whether, as a result of the decision in ALAB-924 and the pendency of the various other cited matters, the Licensing Board had a clear, nondiscretionary duty to withhold any full power license authorization. For the reasons which follow we find that it did not and deny the relief requested.

a. First of all, nothing in ALAB-924 by its terms precludes a full power authorization pending completion of the remand proceedings. The four matters were reversed and remanded to the Licensing Board for further actions consistent with the opinion, ALAB-924 at 70, but no specific directions were given with regard to the effect of the opinion on a possible future license authorization.

Second, a review of NRC rules and prior NRC decisions does not suggest the existence of any clear, nondiscretionary duty on the part of the Licensing Board to delay full power authorization pending completion of remand proceedings cr resolution of all pending matters. In fact, a review of prior precedents indicates past examples of where, as

were, permits or licenses were authorized while remand proceedings and motions were still pending. 10/

10/ Public Service Company of New Hampshire CLI-77-8, 5 NRC 503, 521

Prior practice suggests that where there is a remand or pending motion the matter of license or permit issuance must be considered on a case by case basis.

Third, and most importantly for this case, the authority of the Board to authorize issuance of a full power license notwithstandina pendency of remands and motions relating to emergency planning issues can be traced to a specific provision of the NRC's emergency planning regulations. Under § 50.47(c) failure to meet offsite emergency plannino standards "may result in the Commission declining to issue an

operating licerse" (emphasis added), but does not require this result because an applicant may still show, inter alia, that the deficiencies "are not significant for the plant in question.' Accordingly, if a finding can be made that an emergency planning deficiency detemined to exist on appeal (1977); Consumers Power Co. (Midland Plant Units 1 and 2), ALAB-458, 7 NRC 155, 159-60, 169-70 (1978); Long Island Lighting Co. (Shoreham Nuclear Power Station, LBP-85-53, 20 NRC 1531 (1984). See also Oystershell Alliance v. NRC, 800 F.2d 1201 (D.C. Cir. 1986) (per curiam) upholding issuance of a full power license notwithstanding pendancy of motions to reopen.
is not significant, or that an emergency planning issue left unresolved as a

result of a pending remand or motion is not significant, then a full power license can still be authorized. In effect, § 50.47(c) creates two classes of litigable emergency planning issues - those "significant" issues which must be addressed fully and resolved favorably by the Licensing Board before full power licensing, and those which are not significant and which can be resolved by the Licensing Board after license issuance.

We therefore reject the fundamental premise of Intervenors' argument that the issues remanded in ALAB-924 must be considered material factors to license issuance and "therefore must be resolves completely on their merits before license issuance. We agree that the remanded issues are relevant to the

licensing proceeding as a whole, since a positive resolution of them will support a finding of compliance with 10 C.F.R. § 50.47(b) emergency planning standards and therefore support license issuance. But all issues which are relevant to compliance with 10 C.F.R. § 50.47(b) emergency planning standards are not necessarily material to license issuance because, under 10 C.F.R. § 50.47(c), compliance issues may not be significant and therefore need not be resolved prior to license issuance. 11

11/ Safety issues, including emergency planning issues, can also be categorized in terms of the Licensing Board's duty to complete the proceedings itself as opposed to referring the matter to the staff for informal resolution. A Licensing Board may refer minor matters which in no way pertain to the basic findings necessary for issuance of a license' to the Staff for post hearing resolution. Consolidated Edison Co. of N.Y.: Inc. (Indian Point Station, Unit 2) LLI--74-23, 7 AEC 947, 951-52 (1974);

Public Service C2m"n ot Indiana, Inc. (Marble Hill Nuclear Generating Station, Units 1 and 2), ALAB-461, 7 NRC 313, 318 (1978); Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), ALAB-788, ZO NRC 1102, 1159 (1984). And, with respect to emergency planning, the Licensing Board may accept predictive fencings and post hearing verification of the formulation and implementation of emergency plans. Philadelphia Electrlc Co. (Limerick Generating Station, Units I and 2),ALAB-836, 23 NRC 479,-84-95 (1986). Completion of the minor detailsof emergency plans are a proper subject for post hearing resolution by the NRC staff. Kansas Gas and Electric Co. (Wolf Creek Generating Station, Unit 1), LBP-84-26, 2"RC 53, 61-62 (1984).

b. With particular regard for the pendency of the motions to reopen on the onsite exercise and on the EBS contention, we read the Licensing Board's decision in LBP-89-33 as contemplating a full power license authorization so that the Commission could commence its own review of full power licensine under § 2.764, see

LBP-89-33 at 38, but also recognizing that its rulings on these motions could require that the full power license authorization be vacated. The Board's decision need not be read, as Intervenors would have it, as holding necessarily that there would be ro ruling on the pending motions until after license issuance. In any event, Intervenors' complaints about the possibility of license issuance during the pendency of these motions is now moot since both motions have now been decided by the Licensing Board. Since we respond to the certified question today, Intervenors' concern about license issuance while this matter is pending is moot as well. 12

12/ 12 Intervenors' concerns about the need to conform the Board's SPMC decision to ALAB-924 and request for

hearing on / 50.47(c) issues are addressed later in this opinion in sections IIIA.L. and IIIA.3.

In sum, we hold that there was no non-discretionary legal duty on the part of the Board to withhold full power authorization because of the decision in ALAB-924, and that issues raised by Intervenors pertaining to the pendency of the two motions to reopen and the certified cuestion are now moot in any event.

In this opinion we are treating the decision In LBP-89-31 as, in effect, a supplemental initial decision, and including it as part of our effectiveness review under § 2.764. In this context we will address, in some detail, the reasonableness of that decision, including the application of

10 C.F.R. § 50.47(c) to each of the four remanded issues. 13/

13/ On November 15, 1989 Intervenors filed a request for a hearing to the extent a full power license authorization might be based on 10 C.F.P. / 50.47(c)(1). Since we are clearly basing the license authorization on this provision of the Commission's rules, the hearing request must be addressed by us.

There is no doubt that Intervenors have been heard before the Comission on whether the matters reversed and remanded by ALAB-924 are significant and therefore must delay license issuance. These views have been expressed forcefully and at great length in the various written papers filed with us. We find that the written papers before us are adequate for us to address the reasonableness of the Board's conclusions. Further, neither we, nor

the Licensing Board, have relied on facts outside the evidentiary record in reaching conclusions about significance; no new evidence was adduced or considlred. And intervenors' hearing request fails to suggest how the existing record may be inadequate and fails to indicate whether, or if so, in what particulars they will offer additional evidence. Given this, we see no need for additional evidentiary hearings on / 50.47(c) significance issues. Any unfairness which may have resulted from the Board not having invited comment before making its findings on significance has been removed by the written pleadings, which were filed subsequent to the Board's findings, and our careful consideration of these pleadings.

Accordingly, if construed as requesting an opportunity to be heard, Intervenors flovember 15, 1989 motion is now moot; construed as a request for additional evidentiary hearings, the request is denied.

III. Immediate Effectiveness Review

A. Effectiveness Review of LBP-89-33 (Supplemental Memorandum)

1. LETTERS OF AGREEMENT

Among other things, emergency response plans must ensure that arrangements have been made for "requesting and effectively using assistance resources." 10 C.F.R. § 50.47(b)(3). See also 10 C.F.R. §50.47(b)(1). Associated regulatory guidance provides:

> Each organization shall identify nuclear and other facilities. organizations or incivioUals which can be reieea upon in an emergency to provide assistance. Such assistance shall be identified and supported by appropriate letters of agreement.

NUREG-0654/FEP,A-Re P-1 (Rev. 1), "Criteria for Preparation ara Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plarts" (Nov. 1980) at II.C.4. In Section 2 of LBP-88-32 the Licensing Boara considered various challenges to Letters of Agreement (LOAs) obtained by the Applicants pursuant to this regulatory guidance. As a preliminary matter, the Board restated its earlier

ruling 14 that Applicants dc not need to sign LOAs with, inter alia, schools and school personnel because the,, are "recipients" of evacuation services and LOAs are required only for "providers" of such services. LBP-88-31- at 673.

In Section 7 of LBP-88-32 the Licensing Board considtred the general issue of human behavior in emergencies including contentions asserting that teachers would abandon their normal roles in the face of a radiological emergency. In the course of discussing teacher roles during an emergency, the Board made the following observations:

> 7.9. In general terms, the teachers would have very simple responsibilities in the event of an emet,gency requiring early

dismissal and evacuation. They would be responsible for accounting

14 Memorandum and Order, May 2, 1986 (unpublished).

for the children uncer their direct care, taking them to a central place in the school (cafeteria, for example) for accountability, anc Ccing with them on school buses to their evacuation destination. E.g., Tr. 4014.

7. 10. According to Applicants, teachers are not being calltd upon to co anything under the plan that they would not normally do in any emergency, or for that

> matter, on any regular day; they are viewed by the planners as recipients of services rather than as emergency workers or providers of services. Tr. 3356-57; see FEMA Dir., ff. Tr. 4501, at 48. However, we believe that, to the extent that teachers would be expected to accompany pupils in an evacuation rather thati leaving in their own transportation, the teachers should be regarded as service providers.

28 NRC at 7/'-9-30. The Eoard did not, however, t-efer back tc its earlilr discussion uf LOAs nor indicate that LOAs might be needed from teachers.

The Appeal Guard approved the Licensing Board's distinction between providers dno recipients as being a sensible basis for determining the need for LOh's. ALAB-924 at S. The distinction, in the view of the Appeal Boaro, "recognizes that LOAs need not be sought from everyone involved in the emergency response process; rather, they can be limited to those who contribute assistance services." However, the Appeal Board believed, as argued by Intervenors, that the Licensing Board's finding, in the Human Behavior section of its decision, that teachers are I'service providers" to the extent they would be expected to accompany pupils in an evacuation was inconsistent with its earlier ruling that teachers were

"recipients" rather than "providers" of services. Id. at 9.

The Appeal Board examined the Licensing Board's reasoning in termina teachers "service providers' and found that the Licensing Board had looked to what teachers are normally expected to do; i.e., to the extent that teachers are beina asked to do something not within the scope of their normal duties, they cease to be 'recipients" and become "providers The Appeal Board then addressee the NRC Staff's argument that teachers, in being asked to accompany children on buses, were nGt beina asked "to do anything other than what they rormally do -continue to supervise ana assist the children who have been entrusted to their care, which, the. evidence showed, is & duty teachers have

historically performed in both normal dnd emergency situations NRC .*staff Brief at 7. While the Appeal Board indicated that the Staff's conclusion may be correct, it rejecttd the evidence supporting that conclusion (which showed that school personnel do not generally abandon their rule as student custodians in times of emergency) as not "addressLing7 the issue of whether school personnel acting in that role are orainarily expected to accompany their students in an evacuation

A. ALAB-924 at 10. Thus the Appeal Board remanded this matter for further explanation "with the direction that it resfilve the existing inconsistency in its interpretations of the role of school personnel in an evacuation and determine whether any

LOAs should be obtained from school personnel." Id. at 11.

In its supplementary memorandum, the Licensing Board explained the context of the apparent inconsistency: in the LOA section of its decisior the term "service provider' 'has a special regulatory meaning ... flowing from NUREG-0654, II.C.4" (LBP-89-33 at 10) but in the Human Behavior section of its decision it used the term in the context of detemining

15 While the evidence proferred by the Staff nlay not be "definitive" (see ALAB-924 at 10) as to this issue, it is not immediately clear to us why it is not sufficiently probative as to resolve this issue.

whether teachers would abandon a particular role -- the role ot a custodian in evacuatine %with the children. 16 See id. at 9-10. "No party argued, as a human factors consideration, that the likelihood of teachers evacuating with students would be enhanced by LOAS. It was without any thought of the LOA requirements that the Board deemed teachers evacuating with students to be providers of services." Id. at 10.

The Board did not view this matter as a significant safety issue because it remained convinces "that sufficient numbers of school teachers will accompany school buses in those cases where they are neeaed" based on its "configence in the inherent aegication and sense of res;crsibility of school

personnel." Id. at 9. Thus the remanded issue Gic not cause the Board to charge its "ultimate conclusion that school children can and will be safely evacuated." Id. at 11.

Comission Conclusion

We believe that the Board's decision that this remanded issue does not raise a significant substantive issue regarding emergency planning

16 The Licensing Board noted that, contrary to the Appeal Board's understirding (see ALAB-924 at 10, n.24), the Board did not intend to limit its findings with respect to role abandonment to the roles of teachers in acccunting for their students and seeing them to the bus. See LBP-89-33 at 8-9. Rather, those findings do not 'stop at

the school Fu-s steps. If needed, school personnel will stay with their charges until they are safe." Id. at 9. The Board appears to be saying that the distinction it drew betzee-n teachers in the role of accounting for students and seeing them to the buses and in the role of riding the buses was meant as a distinction between what all teachers are expected to do and what only some teachers are expected to do (the rest being free to depart in their own vehicles). The distinction was not meant as a conclusion that the latter teachers were transformed into "service providers" within the regulatory mlaning of NUREG-0654, II.C.4.

adequacy is a reasonable one. 17 First, it-may well be that the Licensing r.oard has now provided the explanation sought

ty the Appeal Board. Second, it does not appedr that there is any reason why the evacuation of school children will be celayed or will not occur even if no teachers or other school personnel agree to accompany the children on evacuation buses. The Licensing Board noted that Richard Strome, then New Hampshire's Director of Emergency Management, while hoping that teachers viould participate, stated that their participation is not "key to the process" and observed that school children usually get on school buses without assistance and that teachers oo not regularly travel on the buses. See LBP-89-33 at 8. Firially, while the Appeal &Qard was unwilling to accept historical testimony showing that teachers do not abandon school children in emeroencies in support of what

teachers lonormally" are expected to do in an evacuation, we think this testimony at least supports the view that even if riding the bus in an emergency is riot a normal duty, sufficient school personnel will in fact do this if not doing it would endariger the children. 18

Because it nay well be that the Licensing Board has now provided the clarification sought by the Appeal Board, and because the matter does not

17 We address the significance of this issue (and the three other

rermanded issues as well) both in the context of our 'consideration of the gravity of the substantive issue,' 10 C.F.R. / 2.764(f)(2)(1), and in the

context of 10 C.F.R. / 50.47(c).

18 See 28 NRC at 740-41.

appear to be significant in any event, we see no need at this point to "conform" anything in the Licensing Board's SPMC decision to ALAB-924.

2. SPECIAL NEEDS SURVEY

Emergency plaNning includes ensuring that adequate transportation resources and related support services are available to evacuate the transit-dependent population in the EPZ. See 10 C.F.R. / 50.47(b)(8); NUREG-C654, II.J.1C.d. This population includes those with "special needs" for transportation services: homebound physically impaired persons and individuals likely to be without

transportation. In April 1986, the Licensing Board admitted for hearing two contentions sponsored by SAPL which challenged the adequacy of the means usea in the NHRERP for identifying the special reeds population. i9 Subsequently the Licensino Board granted Applicants' motion for partial summary disposition with respect to these contentions insofar as they asserted that adequate procedures for identifying persons with special needs do not exist. See Memorandum and Order of November 4, 1986 (unpublished) at 17.

19 See Memorandum and Order of April 29, 1986 (unpublished). At the

ime SAPL submitted its contentions the NHRERP based the number of individuals without their own automobile transportation on an estimate rather than on a survey by which such individuals would identify themselves. No physically impaired persons had been identified, but the NHRERP assumed one special needs vehicle would be needed for each town. See SAPL's Second Supplemental Petition for Leave to Intervene (February z7, 1986); Applicants' Response to Off-Site EP Contentions (March 5, 1986).

Applicants had moved for summary disposition on the basis of the employment of a new method for determining the special needs

population: a Special Needs Survey conducted by Applicants during the last two weeks of March 1986. 20 In an affidavit attached to their motion, Richard H. Strome, Director of the New Hampshire Civil Defense Agency (NHCCA), described the new method and expressed his opinion that reasonable assurance exists that special needs individuals can and will be identified through utilization of the survey. 21 See Strome Affidavit at 4.

In response to Applicants' motion, SAPL had argued that the survey was inadequate for the purpose of identifying the special needs population, attaching in support of this claim the Affidavit of Frederick H. Anderson, President of Ideas and Information, Inc. and Director of

International Services at International Data Corporation. 22

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20 See Applicants' Motion for Partial Summary Disposition of South Hampton Contention No. 8, NECNP Contention NHLP-4 and SAPL Contentions 18 and 25 (May 20, 1966).

21 Mr. Strome stated. inter alia, that the survey questionnaire was mailed to EPZ residents base on utility customer lists and was distributed by several social service and local municipal agencies; that the questionnaire requested infomation on persons within households who might not be able to comprehend English; that

Civil Defense officials would verify responses; that the survey would be conducted annually; and that public information announcements had been and would be made periodically by the NHCDA "to inform the public of the distribution of the survey, to encourage responses by persons who may require special assistance, and to provide a means for persons to request survey forms if they way not have received them.' Strome Affidavit at 3.

22 See SAPL's Response to Applicants' Motion for Summary Disposition of SAPL-Contentions 5, 7, 14 and 17 and Motion for Partial Surmary Disposition of SAPL Contentions 18 and 25 (June 9, 1986). Mr. Anderson stated, inter alia, that the Strome Affidavit

and survey instrument gave no indication: (1) that special needs individuals who do not receive utility bills, such as those living in apartments or motels, would have been identified; (2) that special needs individuals not resident in the EPZ in March would have been identified; (3) that potential respondents were given sufficient motivation to respond; (4) that the accuracy of information received had been verified; (5) that various design deficiencies had not confused respondents; (6) that those who read only French, Spanish, or other languages or who do not read at all would have responded; (7) that transients in the area would have been reached; and 18) that the single

mailing of the questionnaire would have located even a majority of the special needs population.

SAPL contended on the basis of the Anderson Affidavit that it had raised genuine issues of material fact as to the adequacy of the survey; in particular, that the survey needed to be supplemented using additional identification techniques, that greater motivation to respond needed to be provided, that the survey should be conducted more frequently than annually, that an outreach program to social service agencies needed to be includes, and that the design of the questionnaire needed to be improved-to

eliminate ambiguity. See SAPL's Response at 17-18.

On appeal, SAPL challenged the Licensing Board's grant of summary disposition. The Appeal Board, upon reviewing the filings before the lower board, determined that issues of material fact concerning the adequacy of the survey, which it identified as "issues relating to the methodology utilized to identify the special needs population,-survey design, accuracy verification, response motivation, and update procedures," were indeed present. ALAB-9/-.4 at 16. Moreover, the Appeal Board rejected the only rationale given by the Licensing Board for its decision; i.e., that the "additional requirements" sought by SAPL "would fall into the category of

'extraordinary measures' not required by the regulations of this Commission.' Memorandum and Order, November 4, 1986 at 16-17. 23

Thus the Appeal Board concluded that the Licensing Board had erred in granting Applicants' summary disposition motion and, accordingly, "remand[ed] the matter of the sufficiency of the 1986 Special Needs Survey for further consideration by the Licensing Boaro." ALAB-924 at 19.

Further, the Appeal Board noted that it would be "premature for us to render any judgement regarding intervenor SAPL's challenges to the Licensing Board's findings concerning

availability of adequate numbers of vehicles and drivers" until the Licensing Board had again considered this matter upon remand. 24 Id. at 19-20. The Appeal Board also noted:

> We also are unable in this instance to rely upon the Licensing Board's determination that there is an excess of available evacuation vehicles and drivers, see LBP-88-32, 28 NRC at 695, as the foundation for a finding of h7r-mless error. ... On the present record we have no basis tor setting a limit on the uncertainty about the size of the 'special needs, -population that accrues from the Licensing Board's erroneous sumwary disposition ruling.

23 As the Appedl Board notes, ALAB-924 at 16, the Licensing Board did not address the question of whether genuine issues of material fact were present. Instead, the Licensing Eoara accepted Applicants' argument that the improvements in the survey desired by SAPL constituted 'exrrd0rai-nary measures within the meaning of the Commission's decision in Southern California Edison Co. (San Oriofre Nuclear Generating Station, nits and 3), CLI-8:--10, 17 tl;T r.-28, 536 (196')), rev'd in part on other

grounds, GUARD v. NRC, 753 F.2d 1144 (D.C.Cir. 13W.

24 Before the Licensing Board SAPL raised various challenges to Applicants' testimony that the NHRERP provided reasonable assurance as to the availability of sufficient buses and drivers to effectuate a complete evacuation of the New Hampshire EPZ. See 28 NRC at 692-694. In particular, SAPL claimed that at the hearing Applicants had revised downwards the numbers of buses/drivers that were available. See id. at 694. The Board noted that the State had demonstrated that "it is willing to revise its dependence on certain drivers if the State is made aware of their unavailability" and expected 'that

deficiencies in the driver pool will be provided for through utilization of other resources identified or to be identified by the State." Id. at 693-694. Thus the Board did not believe that any uncertainty created by changes in the pool of buses and drivers assigned to assist in an emergency response undermined its confidence that the NHRERP contained reasonable assurance of sufficient transportation resources. SAPL appealed the Board's resolution of the issue of bus or driver availability. SAPL Brief at 37-39.

In its Supplementary Memorandum the Licensing Board reviewed the remand decision, the original filings with respect to the summary disposition motion, and information subsequently

placed in the record and concluded: (1) that the remanded issues do not present significant safety or regulatory considerations requiring prelicense adjudication; (2) that its finding that adequate transportation and support services would be

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25 At the text of LBP-88-32 cited by the Appeal Board, the Licensing Board considers an Intervenor argument that one particular segment of the special needs population, transients without their own transportation, were not adequately provided with transportation for evacuation. See 28 NRC at 694. Intervenors claimed that the adequacy of

transportation provisions for transit-dependent transients could not be made without having an exact estimate of that population and that there was no such exact estimate because the Special Needs Survey did not identify individuals who may be dropped off by bus or who hitchhiked to the beach, unless they were associated with a hotel responding

to the survey. The Licensing Board noted Applicants' testimony (1) that, based upon the work of KLD Associates (the preparer of the ETE for Seabrook), few transients would require transportation assistance, and (2) that Applicants "had added nine buses to the beach area to address the uncertainties in the number

of individuals in this population and that they had specifically routed buses along the beach area." Id. at 695. The Licensing Board concluded:

> Applicants' allocation of transportation resources in excess of that identified as being needed under its Special Needs Survey also supports a finding that there is reasonable assurance that a small population of transit-dependent transients can be adequately evacuated. ... Based on the number of buses and drivers Applicants identify as being available for evacuation purposes. We also find reasonable assurance that any increase in the estimate of the population of transport-dependent transients can be addressed without

major revisions to the plan.

Id. The Licensing Board's findings are based on record evidence that the number of buses available for evacuation of the special needs population is approximately 50% greater than the number of buses required by the survey. See Applicants' Direct Testimony No. 2 (October 21, 1987), ff. Tr. 4228, at 10.

available to evacuate the transport-dependent population was not undermined; and (3) that the survey deficiencies, even if ultimately found to be meritorious, are either of no moment or are amenable to relatively simple and timely correction. LBP-89-33 at 17.

The Licensing Board's conclusions were premised on the view that "the

focus of SAPL's identified concerns regarding the adequacy of the 1986 Special Survey is to fine-tune and broaden rather than replace the methodology employed by the NHCDA to identify special needs populations." Id. at 21-22. Thus the Board found that SAPL's concerns regarding ambiguities in the design of the questionnaire, the need for motivational language, the frequency of the survey (once a month rather than annually), the need to continuously survey the transient population and the need for testing of the siren system to assist the hearing impaired in determining their need for special notification 26 simply went beyond the requirements of the Commission's emergency planning regulations and associated regulatory guidance. Id. at 18-20. The Board also

noted that SAPL had not "advanced any specific factual bases tending to establish that significant numbers of special needs individuals or their transportation needs were, in fact, understated or unreported." Id. at 18.

The Board did view one issue -- the adequacy of the dissemination methodology employed in conducting the survey -- as having "a reasonable possibility of requiring a prelicense hearing and adjudication." Id. at. 20. However, the Board rejected this conclusion because the NHRERP

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26 See LBP-89-,-)6 (November 28, 1989) which corrects the Board's misimpression, as expressed in LBP-89-33, that this issue was moot.

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contains two features in recognition of the fact that any survey will miss a certain number of people: excess transportation resources27 and a mechanism for special needs individuals who have not been preidentified to make their needs known to energency response workers. Id. at 21. The Board did not believe that the number of unidentified special needs individuals could be "so large as to render the existing excess transportation resources under the NHRERP inadequate."

Commission Conclusion

In reviewing this issue, the Commission finds reasonable the Licensing Board's view that SAPL's concerns with the adequacy of the 1986

Special Needs Survey are primarily in the nature of "fine-tuning" an acceptable methodology-of ascertaining special needs individuals than a contention that the Applicants or the State must begin this task anew due to methodological deficiencies. While the Appeal Board is correct that survey improvements do not amount to "extraordinary measures" within the

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27 The Board found that the fact that the survey had been undertaken in March, before the arrival of the summer population, did not present a significant safety or regulatory issue requiring prelicense adjudication because:

First, any failure to identify summer special needs individuals is of consequence only in the summer, some eight months hence. Second, given the NHRERP's allocation of transportation resources equal to 150 percent of the 1986 identified transit-dependent needs

... and written comitments indicating the overall availability of approximately 170 more buses than the estimated need (LBP-88-32, 28 NRC at 692),

the number of summer transit-dependent individuals would have to be <u>significant</u> before our finding that

> adequate transportation resources will be available can be seriously questioned.

Id. at 19-20.

meaning of the Commission's San Onofre, supra, decision, it is also true that for the most part the improvements desired by SAPL appear not to be required under the Commission's regulations and guidance. Particularly in view of the fact that SAPL, in resisting Applicants' summary disposition motion, did not present any evidence tending to show that any particular special needs individuals were missed (as opposed to expert opinion suggesting that some may have been missed), we believe that the Licensing Board was reasonable in concluding that this remanded issue did

not raise a sicnificant substantive issue regarding emergency planning 28 adecuacy.

However, one aspect of this issue deserves further comment. No survey can guarantee the identification of every transit-dependent individual. In recognition of this, the Licensing Board noted that a common and acceptable approach is to have available both excess transportation resources and a mechanism for special needs individuals who have not been preidentified to make their needs known to emergency response workers. The Licensing Board observed that the emergency plan included both of these measures. LBP-89-33 at 21. On

the basis of our effectiveness review, we agree with the Licensing Board that while some special needs individuals might not be preidentified, that number should not be so large as to render the existing excess transportation resources inadequate. With particular regard for hitchhikers among the peak summer

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28 While the non-moving party, in resisting a summary judgment motion, need not present all the evidence it would introduce at a hearing, it is obliged to support its opposition to summary judgment with evidence that is 'significantly probative". Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 249-250 (1986).

29 We also note that the survey is to be updated annually, and the next update should be done in the summertime. Thus, the problem highlighted by Intervenors' contention that the prior survey was done in March and therefore missed those who would be present only in the summertime can be easily and expeditiously cured.

beach population, and beachgoers who are dropped off at the beach by family members or others, we rely on the testimony by Applicants' witness which is to the effect that the number of such people is not significant.'29 See Tr. 4252-53 (Oct. 21, 1987). On the basis of this review, we therefore disagree with the Appeal Board that no limit can be set on the uncertainty about the size of the special needs population. We

believe that the uncertainty is not likely so large as to require more transportation resources than the plan already provides.

3. ADVANCED LIFE SUPPORT PATIENTS

The Commission's regulations require the preparation of "an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway [emergency planning zone] for transient and permanent populations." 10 C.F.R. Part 50, Appendix E, s.lV; see also 10 C.F.R. s.50.47(b)(10), NUREG-0654, Appendix 4. As the Licenslng Board explained:

The primary purpose for having

evacuation time estimates is to assist responsible governmental officials in making informed decisions regarding what protective actions are appropriate in a given radiological emergency in order to maximize dose savings. To make these decisions the government officials must have available to them evacuation time estimates that are realistic appraisals of the minimum period in which, in light of existing local conditiors, evacuation could reasonably be accomplished. The nearer to [the] plant the area that might have to be evacuated, the greater the importance of accurate time estimates. Cincinnati Gas A Electric Co. (William H. Zimmer Nuclear Power Station, Unit 1),

ALAB-727, 17 760. 770, 771 (1983).

The Commission has emphasized that an adequate emergency plan is not required to achieve a preset minimum dose savings or a minimum evacuation time for the EPZ in the event of a serious accident. Long Island Lightin2 Co. (Shoreham Nuclear Power Station, Unit 1), CLI-86-13, 24 NRC 22,.30 (1986).

In LBP-88-32, the Licensing Board approved (subject to conditions not relevant here) the evacuation time estimates (ETES) prepared for the Seabrook emergency planning zone (EPZ). 28 NRC at 803. In approving these ETES, the Board rejected the testimony of Intervenor witness Maureen Barrows that the NHRERP had incorrectly estimated the time needed to move a wheel chair nursing home resident from room to

evacuation vehicle 30 on the fol'aowing basis:

> ... Intervenors' assumptions concerning evacuation times for each nursing home patient fail to adequately reflect the evacuation time assumptions of the NHRERP. The plan assumes that patients are at the loading point when transportation arrives (NHRERP, Vol. 6, at 11-[21]), not in their beds awaiting pickup as Intervenors argue.

408 NRC at 699. Although the Licensing Board addressed Ms. Barrows' testimony, it apparently ignored the testimony of Intervenor witness Joan Pilot who voices a similar concern with respect to

advanced life support (ALS) patients. She testified that it would take from 28-60 minutes to move an ALS patient from hospital bed to a stretcher in the same room and that, except for paperwork, it is not possible to begin preparation of an

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30 Ms. Barrows testified that a time trial for moving a wheel chair nursing home resident from her bed to the place where the evacuation bus would be waiting showed a total time of 5 minutes, 17 seconds as opposed to the estimated time of 15 seconds per resident specified in the NHRERP at Vol. 6, p. 11-21. See Direct Testimony of Commissioner

Maureen Barrows, ff. Tr. 4405, at 2-3.

ALS patient for evacuation until the ambulance arrives. See Rebuttal Testimony of Joan Pilot, fol. Tr. 7670, at 1-2; Tr. 7674-76.

The Appeal Board found that appropriate planning implementation had been undertaken with respect to specification of the number and type of transport vehicles assigned to evacuate particular special medical facilities. ALAB-924 at 23. However, the Appeal Board agreed with Intervenors' concern, based on the testimony of Ms. Pilot, see supra, that the preparation time for the evacuation of ALS patients had not been taken into account in the ETEs applicable to this group. Id. at 24-27.

The Appeal Board noted that the Licensing Board's reason for rejecting the Barrows' testimony with respect to nursing home wheel chair residents -- that the NHRERP assumes them to be at the loading point, not in their beds, when evacuation vehicles arrive -- is "inconsistent with the direction given in the individual emergency plans for New Hampshire EPZ towns that patients/residents of special facilities will be assembled as (not before) the evacuation vehicles arrive." Id. at 26 (emphasis in original). The Appeal Board was concerned about a possible underestimate of ETEs for ALS patients stemming from a failure to consider the necessary preparation time due to

the proximity of several special facilities to the Seabrook

plant, as well as the fact that sheltering in large buildings such as these institutions may offer greater protection than that assigned to residential properties, thus making sheltering a more acceptable alternative to evacuation if the evacuation times increase appreciably...Id. at 25 (footnotes omitted). 31.

31 Both the Appeal Board and the Licensing Board appear to haveassumed that ALS patients reside at nursing homes. However, Applicants' witness Michael C. Sinclair testified during cross-examination that Applicants had worked with hospital and.nursing home personnel in developing their

emergency plans as well as the transportation requirements needed to implement those plans and that none of the nursing homes in the EPZ have ALS patients who require ambulance transport. See Tr. 4294-95. Thus the record indicates that all ALS patients reside at Exeter and Portsmouth Hospitals which are located, respectively, seven and eleven miles away from the reactor. NHRERP, Vol. 1 at Table 2.6-3.

Thus the Board remanded this issue for resolution by the Licensing Board. 32

In its supplemental memorandum, the Licensing Board explained that the "loading time" in the ETE for the ambulatory and wheel chair nursing home residents is not the same as the ETE for non-ambulatory persons such as ALS

patients. LBP-89-33 at 25, 28. Only the ETE for the former is based on the notion that the evacuees will be waiting at the loading point for the transit vehicles to arrive. For ALS patients the loading time in the NHRERP is 40.2 minutes which, in the Board's view, "does not deviate in any significant way from an average of the time Ms. Pilot stated it takes to prepare ALS patients for transportation (28 + 60 minutes/2 - 44 minutes)." Id. at 25. Thus the Board found that "[aln increase of four minutes in the ETE would not affect the choice of a protective action recommendation for the ALS patient population as awhole." Id. 33

32 The Appeal Board also noted:

> [c]orrection of the preparation time omission ... also will ensure that special facility planning conforms to the guidance of NUREG-0654 that evacuation time [e]stimates for special facilities shall be made with consideration for the means of mobilization of equipment and manpower to aid in evacuation' and that '[e]ach special facility shall be treated on an individual basis.' NUREG-0654, App. 4 at 4-9 to 4-10.

ALAB-924 at 27, n. 71.

The Licensing Board also found that the adequacy of the ETE for the ALS population for protective action

decisionmaking was further demonstrated by what it perceived to be "an extra margin of time within which ALS patients can be readied for evacuation." Id. at 27. This extra margin of time" is provided by the fact that emergency coordinators contact special facilities at the Alert Classification Level

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33 The Board's explanation does not appear to be based on a closereading of the NHRERP. Evacuation time estimates for transit operations are found at Volume 6, Section 11 of the NHRERP. Section 11 contains ETEs for two different categories of the

population at special facilities such as nursing homes and hospitals: the ambulatory and the non-ambulatory. With respect to ambulatory individuals the NHRERP states:

> Studies have shown that passengers can board a bus at headways of 2-4 seconds .... Thus, if we double these headways to account for elderly or disabled passengers, and allow additional time to walk to the bus, then we estimate that a bus can be fully loaded in about 10 minutes (15 second mean headway for 40 passengers).

NHRERP, Vol. 6 at 11-21. With respect to non-ambulatory persons the NHRERP gives ar estimate of

"0.67 hours" as the time for loading passengers but nowhere explains how this estimate is derived or what activities are encompassed within it. NHRERP, Vol. 6 at 11-26. Thus the Licensing Board's assumption that this "loading passenger' time includes the 'preparation time" of concern to Ms. Pilot is not clearly supported.

Moreover, the Licensing Board also may be in error in grouping the wheel chair residents that were the subject of the Barrows testimony, see LBP-89-33 at 28, with the "ambulatory" group. The NHRERP explicitly places individuals confined to wheel chairs with the non-ambulatory group. NHRERP, Vol. 6 at 11-22. Further, as noted by the Appeal Board, see ALAB-924 at

> 26, n. 69, the directions given in individual emergency plans for nursing homes and hospitals do contain language indicating that patients/residents will be assembled as, and not before, evacuation vehicles.arrive. Thus, while there does not appear to be any reason why ambulatory individuals could not be preassembled, these plans, as presently written, are inconsistent with the NHRERP's provisions for ambulatory individuals.

to verify their transportation needs, a contact which "effectively provides the staffs of the special facilities with advance notice that an evacuation is being considered." Id. 34 we note, however, that the Board does not cite

any medical testimony in support of the notion that preparation of an ALS patient would be medically appropriate at the Alert Level. 35

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34 At the Alert Level emergency response workers contact specialfacilities to confi m their needs and notify ambulance operators of potential need in the event that an evacuation is ordered.

35 In fact this "extra margin of time" rationale ignores, without explanation, Ms. Pilot's testimony that ALS patients cannot be prepared until the ambulances arrive. The

Board further confuses this issue by later suggesting that the NHRERP can be improved "by requiring an amendment to the plan (or town plans) to provide for instructions to the staff of special facilities to prepare ALS patients for transportation at the order to evacuate" (emphasis added). LBP-89-33 at 29. It is unclear what the 'extra margin of time" is if preparation does not begin until the order to evacuate has issued. More fundamentally, the Commission is concerned that preparation of ALS patients for evacuation not begin until it is medically safe to do so.

For the above reasons, the Board does not find any "safety significant

problem outstanding with regard to the transit preparation time for ALS patients." Id. at 28. Moreover, in the view of the Board, "any confusion over the distinction between preparing special-needs persons in anticipation of arriving transportation, and assembling them can be readily resolved." Id. at 29.

Commission Conclusion

On the basis of our effectiveness review, we agree that the issue identified by the Appeal Board -- whether the ETEs for non-ambulatory individuals found in the NHRERP take into account the amount of time it would take to prepare ALS patients for evacuation -- remains unresolved. It is simply not clear that the 40 minute "loading passencer" time found in the NHRERP 36 includes this preparation time

as the Licensing Board asserts. Nor do we necessarily agree, in the absence of any confirmatory medical testimony, that there is any so-called "extra margin of time".

Nevertheless, we still view as reasonable the Board's bottom line conclusion that this remanded issue does not raise a significant substantive issue recarding emergency plan adequacy. The record indicates that ALS 'patients are found at only two locations: Exeter and Portsmouth Hospitals. Thus it should not be difficult to resolve whether the 40 minute period way indeed include adequate time for preparing an ALS patient for transport, taking the patient to the loading point and loading the patient into the ambulance. If these tasks take longer than 40 minutes,

then there will be some "shortfall' in the evacuation time estimate for these patients. We have no reason to believe, however, that this "shortfall" would be significant enough to cause a decisionmaker.to recommend sheltering rather than evacuation for either of these facilities. 37

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36 See NHRERP, Vol. 6 at 11-26.

37 While Intervenors argue that these facilities may not have sufficient staff to prepare ALS patients simultaneously, thus further lengthening necessary preparation tlme, see Intervenors' Supplemental Motion at 49, n. 34,

the NRC Staff points-out that 'at no time during the lengthy litigation of this issue have Intervenors contended that medical facility staffing would be inadequate". NRC Staff Response to Intervenors' Motion to Vacate at 31 (emphasis in original).

We note, as Applicants point out, that even should a significantly enlarged ETE make sheltering a preferable protective action response to evacuation in a given circumstance, this is precisely the action the ALS patients would be taking pending their evacuation. See Applicants' Response at 29. Thus the real issue is whether a greatly increased ETE for ALS patients might make it preferable

for this group to remain sheltered even if evacuation of the general population is called for. In the extraordinarily unlikely event that such a decision needs to be made prior to the Licensing Board's resolution of this issue, we believe that the exceedingly small size of this group would make an "ad hoc" ETE estimate feasible and appropriate.

Again, on a related ETE issue, the Intervenors have argued the need to confom the Board's SPMC decision to what Intervenors interpret as a holding in ALAB-924 that the Commission's emergency planning rules require that emergency plans include ETE's for each special

facility. We do not elevate the Appeal Board's observation about regulatory guidance in NUREG-0654 regarding the calculation of ETEs in a footnote in its opinion to a holding that NRC regulations require that emergency plans include individualized ETEs for special facilities even where only ETE's for the general population are to be used in making protective action decisions. We find reasonable the Licensing Board's extensive discussion of this issue in the SPMC decision at pp. 85-90.

4. IMPLEMENTING DETAILS FOR SHELTERING THE BEACH POPULATION Intervenors argued before the Licensing Board that the NHRERP did not contain adequate provisions for sheltering persons at beach areas near the Seabrook Station. The Board explained that the Commission's emeraency planning

regulations do not require that sheltering be designated as a protective action at each site but rather that a range of protective actions be developed and incorporated into the emergency plan.38 See 28 NRC at 770. Similarly, pertinent regulatory guidance "requires an evaluation of the expected local protection afforded by sheltering, but does not set standards for that protection or require it" (emphasis in original). Id. See NUREG-0654, II.J.10.m. Thus the issue before the Board was whether the State of New Hampshire had given adequate consideration to sheltering as a possible protective action. See 28 NRC at 771.

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38 10 C.F.R. / 50.47(b)(10) provides:

(b) The onsite and ... offsite emergency response plans for nuclear power plant reactors must meet the following standards:

(10) A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

Although the preferred protective action for the seasonal beach population is almost always early beach closure or evacuation, the State of New Hampshire is prepared to consider sheltering as a possible recommended action in a very limited number of circumstances:

A. When sheltering can be predicted to be the most effective option for achieving maximum dose reduction;

B. When there are physical impediments to evacuation such as fog, snow, hazardous road and bridc-e conditions, and highway construction; and

C. When transients without transportation need sheltering

pending evacuation.

28 NRC at 758-59. 39

39 Implementing detail for use of the shelterina option in the third circumstance -- the need for shelter by the approximately 2% of the beach population without transportation when an evacuation is ordered -- is not at issue. See ALAB-924 at 59. The plan which we are discussing today, and on whice-we are allowing the finding of adequacy to become immediately effective, is the plan as described by the Licensing Board in its NHRERP decision, 28 NRC at 769-772, and as reviewed by the Appeal Board in ALAB-924. Amendments of this plan since the

close of the record before the Licensing Board have not been considered. If changes to the plan are intended, or if the parties believe that the Licensing Board, Appeal Board, or Comission misconstrued the intent of the plan, then appropriate motions should be filed. In light of the foregoing, the Commission denies Intervenors Motion to Supplement Application for a Stay of LBP-89-32, dated February 14, 1990.

In examining the State's consideration of sheltering in these circumstances, the Board found that the likelihood that sheltering would afford the maximum dose reduction was very low because a determination to shelter for

this reason would require the coincidental occurrence of the following circumstances: (1) no earlier action such as precautionary beach closing has been taken; (2) a peak or close-to-peak beach population exists thereby causing evacuation times to be significantly longer than the duration of the predicted release; and (3) the release is predicted to be one of short duration, without particulates, and projected to arrive x.t the beach in a short time. 28 NRC at 759, 775. Further, the Board credited the testimony of Joseph K. Keller, the FEMA representative, who indicated that the uncertainties involved in predicting the start and duration of a release as well as the meteorological conditions which would bring a release to the beach area in a certain amount of time are

considerable and that, in any event, the dose reduction to be expected from shelters available to the beach population is minimal. 40 See 28 NRC at 765-768.

40 Mr. Keller testified that while he could construct scenarios where after the fact it would appear that sheltering would have been a more appropriate response than evacuation, in a real event "[y]ou have very little confidence that you can predict with any reliability what the next step is going to be. So the prudent thing to do is ... to move the people in a 360-decree arc, a radius,

within two or two and a half, three miles." Tr. 14242. The following interchange then ensued:

Q. Well , let me ask you this, if you can't move the people prior to the start of the release because there isn't enough warning,might you then be better because you don't know where the plume isgoing to travel to put them in

shelters, and wait and then evacuatethem in order to avoid this ground shine component to the greatestextent possible?

A. If the State of New Hampshire had come in with a recommendation or an assertion ... that the shelters ... had a shelter factor of .5 or .4, all right. My own personal opinion Is, you might have looked at it a little harder.

> The State came in [and] said, the average shelter factor in this -- of the buildings out here, is about .9 -- a 10 percent reduction. That's not enough -- I mean, when you have uncertainties in source terms and you have uncertainties in weather conditions, you have uncertainties in the nuclide mix that's likely to be there, this 10 percent reduction is so -- is down in the dirt in the error band, it's trivial.

Tr. 14243.

Since the NHRERP contemplates recommending sheltering in the limited circumstances noted above, the Board

considered the shelter available in the area and concluded that enough sheltering exists for the peak or near-peak beach population. See 28 NRC at 770-772, 775. The Board based its finding upon a shelter survey prepared by Stone & Webster for Applicants and provided by them to the State for use as a resourcedocument as well as site visits to the beach area by the Board. 41 28 NRC at 771. The Board did not, however, require that implementing provisions for the sheltering option be included in the NHRERP. The Board explained:

> After reviewing the testimony on the reasons why sheltering is a very low-probability option, particularly Mr. Keller's explanation of the many conditions

that must line up before sheltering can be predicted to save doses, the Board is concerned that forcing implementation into the NHRERP would be a mistake. The greatest risk is that the decisionmaker might implement the sheltering option using preset implementing detail without understanding that the potential benefits are not very great and can readily be outweighed by the uncertainties.

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41 The Board noted that the shelter survey indicates that some three times as much potential shelter space as is necessary is available and that even if Intervenors'

objections to some of this shelter as unsuitable are fully credited only about 20% of the existing shelter potential would be eliminated. 28 NRC at 771-772. The Board rejected Intervenors' contentions that the owners of beach establishments would close their doors to the transient beach population, finding Instead that this population would be regarded as "fellow victims". See 28 NRC at 772. The State found that the survey "identified a large number of shelters that may serve as a pool from which public shelter choices will be made" but declined to incorporate the study into the NHRERP or rely on the study as a planning basis. See Applicants' Direct Testimony No. 6 at 22 and

Appendix 1 at 9.

28 NRC at 769. The Board was content to leave any differences on this point to FEMA and the State of New Hampshire to resolve. 42 The Board corcluded that "the absence of implementing detail for sheltering in the NHRERP is not so material as to foreclose a finding by the Board that the NHRERP provides reasonable assurance that adequate protective measures will be taken in the event of a radiological emergency at Seabrook."

In ALAB-924, the Appeal Board affirmed the Licensing Board's conclusion that the NHRERP appropriately limited sheltering as a

42 The Board was unable to determine what FEMA's view was as to the necessity of additional planning for the sheltering option. See 28 NRC at 769.

protective action option to very limited circumstances. ALAB-924 at 57-58. However, the Appeal Board believed, contrary to the Licensina Board, that implementin-a measures needed to be added to the NHRERP given that sheltering the beach population remained a possible option. See ALAB-924 at 58-69. The Appeal Board held that its finding in the Shoreham proceeding 43 that the probability of implementation of an option was irrelevant in determining whether emergency planning obligations had been satisfied meant that the low probability that sheltering would ever be recommended did not excuse

the lack of implementing detail. The Appeal Board rejected as well the Licensing Board's perception that the addition of implementing detail might cause a decisionmaker to lose sight of the considerable limitations of sheltering even in circumstances where it might be viewed as an option. Rather, in the view of the Appeal Board, the lack of implementing detail essentially left decisionmakers to respeculate [as to] what will be the practical impact of a decision (to shelter]" and, in fact, enhanced "the risk that sheltering will not be utilized in the appropriate, albeit limited, instances contemplated by the plan." ALAB-924 at 64.

The Appeal Board acknowledged that not all implementing details needed to be in place for a plan to be approved

but found that here "the absence of any concerted attempt to incorporate implementing details for protective action options arrived at as a result of the plannina process is a deficiency that must be remedied." ALAB-924 at 68, n.194. The Appeal Board rejected the NRC Staff's contention that the existence of

43 See ALAB-832, 23 NRC 135, 154-57 (1986), aff'd CLI-87-12, 26 NRC 383, 39T-T9 (1987).

the Stone and Webster Survey, inter alia, made planning here "less ad hoc" than the planning at issue in ALAB-832. 44 Rather, said the Appeal Board, "Etjhe planning efforts concerning shelterina already undertaken remain ad hoc until planning officials take appropriate implementing actions (which] [i]n this

case ... would include designating in the NHRERP which shelters on the survey list are suitable and available for use .... to ALAB-924 at 68. Thus the Appeal Board remanded this matter "fcr appropriate corrective action" by the Licensing Board. Id.

Upon remand, the Licensing Board considered again its earlier determination that the lack of implementinc detail in the NHRERP was not so material an issue as to preclude a reasonable assurance finding under 10 C.F.R. / 50.47(a)(1). The Board recognized that further development of the record would likely be necessary to resolve this issue. LBP-39-33 at 31. However, the Board did not believe that the Appeal Board's remand meant that a reasonable assurance finding was now precluded because "the very low

probability of selecting the sheltering option for the beach population and the fact that the beach population does not reach large numbers until July, provides adequate safety pending the resolution of the remanded sheltering issue." Id. at 33. The Board further observed that "[i]mplementing measures may not be difficult to effect," noting that "sheltering available for the outdoors transient beach population is concentrated in a relatively compact and well defined area." Id. at 32.

44 The Staff pointed out to the Appeal Board that, " ... for the sheltering option under the NHRERP, the means of public notification exist; the mechanisms for a protective action

detemination are in place; and the size of the beach population and the quantity, quality, and location of the shelter are known." ALAB-924 at 62-63.

Commission Conclusion

On the basis of our effectiveness review, we agree with the Appeal Boara that so lonc as sheltering remains a potential, albeit unlikely, emergency response option for the beach population, the NHRERP should contain directions as to how this choice is to be practicably carried out. Such directions should include identification of the location of sufficient available shelter together vtith the means to notify the beach population as to where this shelter is located. Given the existence of the Stone & Webster Survey,

we do not believe incorporation of implementing detail into the NHRERP to be especially difficult or

time-consuming. 45

However, we also find reasonable the Licensing Board's decision that this remanded issue does not raise a sionificant substantive issue regarding emergency planning adequacy. The record shows clearly that evacuation rather than sheltering is the principal protective action for the beach population, and that the average shelter factor is so small . that the public protection afforded from sheltering is very small. FEMA characterized the dose reduction from sheltering as "trivial" and "down in the dirt in the error band", supra p.39, n.40. We note in this reaaed that the emergency plan for the

Massachusetts beaches, which the

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45 In this connection, we note that the Licensing Board has interpreted the remanded issue to mean that specific sheltering (as compared to maps showing sheltering areas) be Identified for the general beach population. See LBP-89-33 at 31-32. We understand the Appeal Board's direction to-7esignate in the NHRERP "which shelters on the survey list are suitable and available for use," ALAB-924 at 68, as meenina that there should be a sufficient quantity of available shelter space rather than that there must necessarily be agreements with particular establishment owners to

provide space to beachgoers.

Licensing Board found to be adequate, does not even include sheltering as an option. Given these considerations, we believe that the absence of implementing detail for the sheltering option is not sionificant.

B. Remaining Unreviewed Contested Matters

1. Licensing Board Decision LBP-89-32 Deciding Contentions or the Emergency Plan for Massachusetts and the Full Participation Exercise

The final significant segment of Seabrook operating license litication

entertained issues on the adequacy of the Seabrook Plan for Massachusetts Communities (SPMC) and the full participation exercise of that plan along with the exercise for the NHRERP and Applicant's plan for onsite response capability as well as the State of Maine's ingestion pathway plan. See 10 C.F.R Part 50, Appendix E I IV(I). The Licensing Board order in LBP-89-32, resolved the issues that were admitted for litigation 46 an(i decided that the SPMC is adequate and implementable.

The Board ruled that the June, 1988 exercise was adequate in scope and revealed no fundamental flaw in any of the plans exercised. The Board specifically found that the SPMC meets the Commission's emergency planning regulatlons. See 10 C.F.R. / 50.47(a) and Appendix E to 10 C.F.R. Part 50.

Thus the Board found, subject to certain commitments, conditions and the like for which the Director of NRR is charged with

> 46 One hundred twenty-three contentions were admitted for litigation.As later consolidated, there were 63 contentions admitted with respect to the SPMC and 21 with respect to the plan exercise. LBP-89-32 at 3.

verifying conformance, that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiolocical emergency at the Seabrook station. 47

In the same opinion the Board also resolved the one remaining ETE-related (Evacuation Time Estimate) issue over

which it retained jurisdiction from the New Hampshire phase of the proceedings. Slip op. at 36. In a separate opinion, LBP-89-17, 29 NRC 519 (1989), another Seabrook Licensino Board had earlier decided in June 1989, that Applicants' Vehicular Alert Notification System (VANS) provided adequate means to alert people who are within the Massachusetts portion of the emercency planning zone of an emergency situation.

> LBP-89-32 is on appeal before the Appeal Board on issues related to48 both the SPMC and the 1988 exercise The Appeal Board is considering.

Intervenors' Appeal of LBP-89-17 (VANS decision) along with LBP-89-32 because the VANS decision was simply one step on the way to LBP-89-32's conclusive

finding of adequacy of emergency planning for the Massachusetts portion of the EPZ. As the only unreviewed partial initial decisions resolving admitted contentions relevant to the issuance of a

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47 FEMA had reviewed the SPMC and judged the exercise and on both testified in the proceeding that they met the NRC regulations and standards. In other words, both the SPMC and the exercise provided reasonable assurance that adequate protection would be provided in the event of a radiological emergency. FEMA's conclusions are presumed to

be correct unless rebutted. 10 C.F.R. s.50.47.

48 This is apart from objection taken to the Licensing Board's treatment in that order of the impact of the Appeal Board's remand in ALAB-924 on the authorization of issuance of a license. full power license, these decisions are a central focus of our immediate effectiveness review.

In considering the conclusions of LBP-89-32, the Commission has paid particular attention to issues raised by Intervenors in their imediate effectiveness review comments. 50 The Commission has neither been shown nor found sua sponte that it need withhold effectiveness of operation of Seabrook

pendina administrative review. Our review has, however, turned up several matters on which we believe we can provide some helpful comment or for which, as a matter of policy, we require some further commitment or action bv the Applicants or Staff. In some instances the Corrinission does so not because it is clearly essential to safety, but because additional enhancements to the adequate emergency preparations that have already been made appear desirable on the basis of our effectiveness review. We discuss these matters below.

(i) Evacuation Time Estimate (ETE) Issues

In LBP-89-32, the Board made the finding that the number of ETES. generated, and the regions and scenarios for which they were generated,

49 As noted elsewhere, LBP-88-32 has been substantially reviewed by the Appeal Board. Petitions for review of the Appeal Board's decision, ALAB-924, are pending. LBP-89-33, the Licensing Board's explanation of its authorization of a license following
ALAB-924, was considered in the preceding section as a supplemental partial Initial decision.

50 MassAG's immediate effectiveness comments on the Licensing Board decision on the SPMC and exercise alone included 34 separately asterisked discussions of error spread over 33 pages. The total lack of references to the

> record which might aid our understanding of their belief that the Licensing Board erred in the referenced portions of the decision was not helpful. Nonetheless because of the importance of this matter we have had our adjudicatory staff do as much of the tracking of sources as possible. The parties are on notice that they may not further rely on the Commission to do their work for them and cannot-Fe heard to complain of any incompleteness in the Commission's response.

are sufficient and correct'Y limited in number so as to be usable by a decisionmaker fairly quickly and not to be overly cumbersome. LBP-89-32 at 47. However, Intervenors complain that the

Board permitted a reatonal approach to producing ETEs and assert that separate ETEs should be created for Massachusetts decisionmakers. LBP-89-32 also states that the liassachusetts Attorney General argued for segregated ETEs for the Massachusetts and New Hampshire portions of the EPZ. Id. at 44.

Our regulation at 10 C.F.R. / 50.47(b)(10) requires, in part, that licuidelines for the choice of protective actions during an emergency, consistent with Federal ouidance, are developed and in place." Criterion ILI.J.10.1 of NUREG 0654 indicates that an organization's plans to implement protective measures for the plume exposure pathway EPZ shall include "...time estimates for evacuation of various sectors and distances based on a dynamic analysis (time-motion study

under various conditions) for that EPZ." Criterion II.J.10.1 also references Appendix 4 cf NUREG 0654 as the location for more detailed guidance on performing such an ETE study. Appendix 4, in turn, includes the following criteria for cetermining sub-areas within the EPZ for which ETEs are required. The sub-areas must encompass the entire plume exposure pathway EPZ, as ETEs are required for the situation of the simultaneous evacuation of the entire EPZ. The sub-areas to be considered are also to be radial distances of about 2, 5, and 10 miles from the nuclear plant, with the areas within these circles to be divided into four, 90 degree sectors. The boundaries of these sub-areas should be based on demography, topography, land characteristics, access routes, and local jurisdictions, and should not

divide densely populated areas to the extent practical.

The guidance in Appendix 4 of NUREG 0654 neither requires nor suggests that the sub-areas' boundaries must take into account the borders of contiguous States. Therefore, the Board's conclusion that there is no regulatory requirement for segregated ETEs for Massachusetts and New Hampshire appears to be correct. Moreover, as a practical matter, we agree in this effectiveness review with the Board's position in LBP-89-32, that the recional approach of the ETEs is acceptable, given the reality that traffic flow cannot be segregated temporally according to political boundaries and because there is no suggestion that evacuees from New Hampshire portions of the EPZ would be

prohibited from entering the Commonwealth.

Furthermore, the guidance of NUREG 0654 states that, when making ETEs for outer sectors, it is to be assumed that the inner, adjacent sectors are being evacuated simultaneously. In LBP-89-32, the Board concluded that the Applicants' regional approach in presenting ETEs was acceptable given that the New Hampshire coastal areas are closer to the Seabrook Station than are the Massachusetts communities and will be generating sizeable traffic flows before or as soon as an order to evacuate is issued in Massachusetts. Indeed, one might conclude from the NUREG 0654 guidance and the aforementioned conclusion by the Board, that the Massachusetts ETEs would be unacceptable under the regulatory guidance, if they dld not take into

account permitted traffic flow from New Hampshire portions of the EPZ that were nearer to the Seabrook Station.

In LBP-89-32, the Board indicates that the NRC Staff witness concluded that the Applicants' ETE study satisfied the guidance of Appendix 4 of NUREG 0654 and all applicable regulatory requirements with

one exception, which was categorized as essentially an editorial task. This exceptior was that the ETE study should be published. LBP-89-32 states that the Applicants committed to publish the ETE

study. The Board required that the published study be submitted to the NRC staff for verification within 60 days of the date of service of LBP-89-32. LBP-89-32 at 115-16. The Board's instruction to publish the study and to submit it to the Staff, so that verification of the publication commitment can take place, was appropriate, as there is no regulatory requirement to incorporate the entire study in an emergency plan.

The Commission finds the Board's decision on this issue reasonable since the guidance contemplates that for ETE purposes the EPZ would be divided in a series of concentric radials, with the areas within the circles into quadrants, taking into account various geographic and demographic features. As a practical matter, where more than one

state is involved, decisionmaking is coordinated and may be expected to be so here particularly since the utility plan for the SPMC contemplates a cooperative effort.

Nonetheless, should the Commonwealth of Massachusetts decide to participate in planning and wish separate ETEs in order to prepare a state-sponsored emergency plan or for its own use in arriving at protective action decisions, the Commission sees no reason why ETE's cannot be promptly developed and considered for that use.

(ii) Notification of Special Facilities in an Emergency The Commission believes that the Board reasonably decided Intervenors' concerns with regard to communication with schools or special needs persons. The Commission notes only that the Applicants, among other

things, committed to supplying tone alert radios to Massachusetts EPZ schools as another means to assure timely notification of the school population in the event of an emergency. No time for fulfillment of the commitment is provided.

51/ See id. at 243.

The Commission believes that this additional protection for school children should be accomplished promptly and without unnecessary delay. However, we do not believe that the matter is significant such that it must be accomplished prior to issuance of the full power license.

(iii) The Sheltering Option for the Beach Population in Massachusetts

Our separate opinion today deciding the certified question is relevant to

Intervenors' arguments with regard to an alleged inadequacy in the range of options for the beach population. That opinion confirms that the adequacy of any emergency plan is not to be judged with specific reference to some minimum level of dose savings. A plan is to be judged under the Commission planning standards, which resulted from a comprehensive public rulemaking which included consideration of the ways to assure effective emergency responses to radiolocical incidents. The Board's finding that the SPMC contains a range of possible protective options for people in the Massachusetts'portion of the EPZ

52/ Id. at 221.

even though not every option is necessarily available everywhere appears reasonable.

(iv) Congregate Care Facilities

LBP-89-32 describes the SPMC's provisions for Congregate Care Centers for school children and for mobility-impaired persons who do not require hospital care. The Holy Cross College in Worcester will serve as a Host School Center for all the Massachusetts EPZ's public, private, daycare, and nursery school children. The primary Host Ambulatory Special Needs Center would be located at the Shriners' Auditorium in Wilmington, while a backup Concregate Care Center for excess members of the ambulatory special needs population would be located at a large facility known as the Westborough facility.

53/ It is alternatively spelled "Westboro" in LBP-32, passim, and in other documents.

Section 10 CFR § 50.47(b)(8) requires that "adequate emergency facilities and equipment to support the emergency response are provided and maintained." 10 CFR 50.47(b)(10) states, in part, "that a range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public." Criterion II.H.4 of Supplement I to NUREG 0654 states as guidance for meeting the regulatory criteria that "each offsite response organization shall provide for timely staffing of the facilities and centers described in the offsite plan." Criterion II.J.10.d of Supplement I states that "the offsite organization's plans to implement protective measures for the plume exposure pathway shall include the means of protecting those persons whose mobility may be impaired

due to such factors as institutional or other confinement. These means shall include notification, support, and assistance in implementing protective measures where appropriate."

a. Adequacy of the Westborough Facility

The Board found that the Shriners' Auditorium can accommodate roughly half of the Massachusetts special needs population who are not school children.

54/ LBP-89-32 at 338.

The Westborough facility is to be available as a backup to accomodate the over 1000 special needs persons who cannot fit into the Shriners' Auditorium in the event that the protective action chosen requires that the entire special needs population be accommodated. The Board noted that FEMA evaluated the Westborough facility for the general

population who would evacuate the EPZ, but not as a facility suitable for the needs of mobility-impaired evacuees. Id. at n.52.

LBP-89-32 indicates that, with the exception of the Westborough facility as a Congregate Care Center for mobility-impaired persons, FEMA found all of the Congregate Care Centers in the SPMC to be adequate. Since the Westborough facility is described in LBP-89-32 as a backup Congregate Care Center for excess numbers of mobility-impaired evacuees, the Commission believes that evaluation of its adequacy for this purpose would be beneficial. Accordingly, the Director of the Office of Nuclear Reactor Regulation, in consultation with FEMA as appropriate, should evaluate the Westborough facility's adequacy as a

Congregate Care Center for mobility-impaired persons. However, we do not believe that the matter is significant such that it must be accomplished prior to issuance of a full power license.

(b) School officials' roles during Evacuation and early stages of Congregate Care

LBP-89-32 finds that the Host School Center at Holy Cross College would accommodate the Massachusetts EPZ's school children if they are evacuated from their schools. The Board further states its understanding that the SPMC incorporates an "evacuation in place" concept

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55/ Id. at 314.

whereby it is assumed that teachers, day care workers, and nursery school personnel will continue in their

"service provider roles" while accompanying their charges through an evacuation process and into the early stages of congregate care. Furthermore, facility administrators and supervisors are assumed by the SPMC to continue to exercise their pre-emergency authority, including calling for additional staff and assigning persons under their pre-emergency authority in a manner that best serves the needs of their group of evacuees. In LBP-89-32, the Board rejected the MassAG's argument, similar to that advanced with respect to the NHRERP, that there is no "reasonable assurance" that Commonwealth school officials will continue in their pre-emergency roles in the event of an actual radiological emergency. As we indicated earlier in this opinion, we consider it reasonable to conclude that

school children can be evacuated without teachers on the buses.

Relatedly, in LBP-89-32 the Board states that the Applicants will make SPMC orientation training available, during some unspecified time period, to Massachusetts school officials regarding the roles that the SPMC expects them to-fulfill in a radiological emergency. The Director of the Office of Nuclear Reactor Regulation should ensure that the Applicants offer this orientation training to all appropriate Massachusetts EPZ school officials and that the training be made available so that it could be completed by the end of the 1989-1990 school session.

3. The Motions to Reopen

In three separate opinions, one issued before and two after LBP 89-32 and 89-33, the Licensing Board rejected

three categories of contentions: LBP 89-28 (ruling on low power testing contention), October 12, 1989; LBP 89-38 (ruling on motions regarding onsite exercise) December 11, 1989, and LBP-90-1 (Ruling on Intervenors' Motions to Admit a Late Filed Contention and Reopen the Record Based Upon the withdrawal of the Massachusetts E.B.S. Network and WCGY) January 8, 1990. We discuss them briefly in turn.

The low-power testing contentions

The Licensing Board declined to reopen the hearing to admit the low power contentions in which Intervenors wished to explore a new operator qualifications based on operator misjudgment during low-power testing. Key to its decision was the determination that low-power testing is not material to the grant of a

full power license and therefore is not automatically subject to litigation as Intervenors maintain. The Licensing Board is clearly correct in that full power licenses may issue without a previous issuance of a low power license which would be otherwise needed to permit such testing. Indeed, were each phase of pre-full power-operational readiness testing to open the door to relitigating the licensing issues it is doubtful that any plant would avail itself of the benefits of an early low-power testing license. Perhaps more importantly, the record shows that Intervenors' contentions are based on staff reports and that this is a matter to which staff has paid considerable attention.

56/ A civil penalty has been assessed against the Applicants request for an exemption from conducting a test of the

onsite plan within a year of issuance of a full power license CLI-89-19, 30 NRC 171 (1989).

The Board specifically noted that it had before it an "ample factual record" (LBP-89-28 at 41) from the affidavits provided by the parties to make a determination on whether the issues were safety significant and explained why they were not. The Commnission believes that the Board's conclusions are reasonable.

The September 18, 1989 Onsite Exercise Contentions

An exercise of Applicants' onsite plan was held on September 18, 1989.

57/ The exercise followed the Commission's denial of the Applicants' request for an exemption from conducting a test of the onsite plan within a year of issuance of a full power license. CLI-89-19, 30 NRC 171 (1989).

Intervenors thereafter contended that the scope of the onsite exercise was insufficient to fully test the onsite

plan. The Board rejected the contentions based in part on Intervenors failure to meet reopenine standards but also, and more importantly, because of a failure to plead how the alleged insufficient scope resulted in a situation where a fundamental flaw in the emergency plan could avoid detection. Significantly, the Board also found that the regulations which Intervenors claimed set the standard for the scope of the exercise were applicable to the full participation exercise but not to the exercise solely of the Applicants' onsite plan. LBP-89-38 at 41. We do not here summarize the Board's 41-page opinion, but express our view that the Board's treatment of this matter appears reasonable. Applicants, onsite plan had been tested on several occasions before

this one and no fundamental flaw was shown. Given the prior review and exercises of the onsite plan, it strikes us as unlikely that a fundamental flaw would have arisen, although it is possible that there might be a lapse in readiness. To avoid such readiness lapses is the principal goal in requiring an annual exercise. We also note that the scope of the exercise does not appear to be inconsistent with the scope of onsite exercises at other plants.

The EBS Contentions

In its decision, LBP 90-1, the Licensing Board rejected contentions related to broadcast notification included in Intervenors' motions served on November 3 or 9

58/ We need not here address the confusion that apparently resulted from

MassAG's withdrawal and resubmittal of his motion to admit the EBS contention.

and November 22. The motions were filed late in the process - at the most a few days before the SPMC decision - and raise the issue whether a motion of this sort can be so late that its consideration is simply precluded. We do not address this issue here; we will consider, separate from the Seabrook proceeding, the desirability of additional guidance regarding such late filed motions. In any event, our effectiveness review here suggests that in the circumstances the Board's application of the reopening standards to these motions was reasonable.

C. Uncontested Issues, Verification cf Conditions and Plant Readness

1. Uncontested Issues and Verification of Conditions

As with any full power license, a full

power license for Seabrook will necessarily contain numerous technical conditions which reflect the Staff's prelicensing technical review of issues relevant to full power operation.

As a result of the litigation of contested issues numerous conditions were placed on license issuance. The Director of Nuclear Reactor Regulation shall ensure that the license includes all of the necessary corditions and that those that are prelicensing conditions have been met. The requirements of this effectiveness order shall not be conditions in the license, as they represent requirements subject to change in the adjudicatory process. Nonetheless, interim compliance is necessary as stated and shall be confirmed by the Staff.

2. Plant Readiness

On January 18, 1990 the Commission met in public session to receive briefings from the Applicants and the Staff on the readiness of the Seabrook plant to receive a full power license. Both reported that the plant was ready except for certain specified exceptions, and the Commission also requested some additional information. The Commission has on January 23, February 9, February 26, February 28, and March 1, 1990 received notice from the Staff that those exceptions have been or are being resolved on the anticipated schedule, and that the plant is ready to begin ascension to full power operation. In particular, the Staff completed detailed reviews of late-filed allegations including approximately 255 separate allegations prepared by the Duality

Technology Corporation for the Employees Legal Project as well as 13 allegations of a private citizen who taped Seabrook control room radio transmissions between January 1989 and the end of January, 1990. Based on these reviews, the NRC Staff concluded that none of the allegations represents concerns that are material to the issuance of a full-power license. Moreover, the review detemined that the majority of the concerns were restatements of allegation's previously submitted and resolved.

In light of the foregoing considerations, the Commission's effectiveness review fully supports allowing the Licensing Board's authorization of issuance of a full power license to become effective.

IV. The Stay Motions

The Commission's effectiveness review under § 2.764 is designed to enable the Commission itself to examine preliminarily the matters decided by the Licensine Board in order to determine whether the decision can become effective and thus authorize issuance of a full power license. While parties were invited by our rules to file effectiveness coments, the principal avenue for relief for parties seeking to preclude license issuance pending appeals is to seek a stay under § 2.788. Stays are a part of the formal adjudicatory proceeding, and the criteria for consideration of a stay under § 2.788 of the Commission's regulations are the same as those which the courts apply in granting or denying a stay pending appeal.

59/ Section Section 2.788 establishes the following factors to be considered in reviewing a request for a stay:
(1) whether the moving party has made a strong showing that it is likely to prevail on the merits;
(2) whether the party will be irreparably injured unless a stay is granted;
(3) whether the granting of a stay would haem other parties; and (4) where the public interest lies.

60/ New England Coalition on Nuclear Pollution filed a separate stay request on the same day. The Commission has considered it as well, along with stay requests included with a party's immediate effectiveness comments.

Administrative Due Process

Intervenors claim that there has not been administrative regularity in the conduct of this proceeding. Intervenors particularly do not like and vigorously object to the Commission's procedures permitting licensing boards to evaluate whether a remand need block authorization of a license, requiring all contentions after the original stage

to be subject to certain "timeliness" requirements, and allowing the Commission to step into a proceedine at any stage to offer guidance to the parties.

The procedures to which Intervenors object are neither unprecedented nor aberrations; they have been in force for years and have been applied to numerous nuclear power plant licensing proceedings before this one.

61/ See discussion supra at sections II.B.1 and 2 and citations there provided.

Their application to this proceeding is not a deprivation of due process.

2. Financial and Resource Harm

Intervenors claim that they will be harmed from the irretrievable commitment of resources associated with operation pending appeal and the alleged inability of the Applicants to meet the expenses

of decommissioning in the event that they operate at full power and the license is later vacated upon final order of the Commission (or a court) after review.

There is no support for Intervenors' claim that the commitment of resources will cause a bias in favor of continuing the license in subsequent Commission decisionmaking.

62/ Intervenors citation to NEPA cases for the proposition that the commitment of resources will prevent meaningful review is unavailing. The decisionmaking process under NEPA includes consideration of commitments of resources and economic factors, while the decisionmaking process for compliance with NRC emergency planning regulations does not.

To the contrary, as the Intervenors themselves have recognized, the Commission has stated repeatedly and catecorically that it will not consider the commitment of resources to a

completed plant or other economic factors in its decisionmaking on compliance with emereency planning safety regulations. See e.g., SAPL v. NRC, 690 F.2d 1025 (D.C. Cir. 1985).

Intervenors' further assertion that Applicants' financial condition will leave them unable to meet decommissioning expenses in the event a license is ultimately vacated totally lacks substance. They claim that the Applicants would have no more than $43 million available at the end of the first year frorr. the state funding source for decommissioning and could have nothing from NRC funding. Intervenors are mistaken. The Applicants' surety bond for $72,126,456.00, required by the Commission for issuance of a low-power license, is effective until "the earlier

of (i) a final non-appealable regulatory or judicial determination that the Seabrook Project has been granted a license...other than as contemplated by the issuarce of the license for low power testing ... or (ii) a final non-appealable regulatory or judicial detemination that no further Pre-Operational Decomissioning is required." Surety Bond between Applicants and The Aetna Casualty and Surety Company as Surety, dated March 20, 1989. Thus this bond is available during the pendency of appeals which could lead to vacation of the license. And, lest there be any doubts on this score, we merely require that the bond, or a similar one, be available pending appeals. Addind the available state funds to the $72.1 million available from the surety, it is evident that

Applicants here would have available over $115 million in the event that premature decommissioning were required. This large sum is close to what, under the Commission's decommissioning rules, would be required for decommissioning of a plant which had been in operation for a long period of time. We find that fund sufficient to offset any claim of irreparable injury from lack of decommissioning funds.

63/ Intervenors use a figure of $242 million developed by the Applicants' in another context,as the "total decommissioning cost assumption." Intervenors' Stay Motion at 9. The Commission does not recognize that sum. We assume that it includes decomissioning costs other than those necessary to avoid radiological harm which are not cognizable here.

In fact Applicants here have done far more to meet decommissioning expenses than our rules literally require.

3. Increased Risk of Nuclear Accident by Alleged Lack of Competence of Seabrook Operators

It is well settled that speculation about occurrence of a nuclear accident does not constitute the kind of irreparable injury that would warrant a stay of full power operations. Eg., Cleveland Electric Illuminating Co. et. al. (Perry Nuclear Power Plant, Units I and 2), ALAB-820, 22 NRC 743, 748 n.20 (1985) citing New York v. NRC, 550 F.2d 745, 750-757 (2d Cir. 1977) and Virginia Sunshine Alliance v. Hendrie, 477 F. Supp. 68, 70 (D.D.C. 1979). In an apparent effort to distinguish this settled principle, Intervenors argue that a June 22, 1989 event during low-power testing, when Seabrook plant personnel erred in not tripping the reactor at the point first called for by the low-power testing procedure,

indicates inadequate training, operating procedures and performance, and that this in turn increases the risk of an accident. We find this argument unpersuasive. The error during low-power testing was significant, and led to enforcement and corrective actions. But the Board, after an exhaustive examination of the incident, based on affidavits from the parties and the extensive NRC Staff investigations of the event, found that reactor plant safety was never in question, that with this one exception plant staff performed well, that there was no evidence of willful noncompliance with NRC requirements or withholding of information from NRC, and that the event reflected only an isolated instance of a failure to adhere strictly to applicable procedures and did not represent a

pervasive breakdown or fundamental flaw in Applicants' testing or training programs. LBP-89-28 at pp 20-22, 28-43. We find the Board's careful discussion and evaluation of the safety significance of this event entirely reasonable and, based upon this and on Staff's and Applicants' own follow-on corrective actions, fail to see how the event evidences any increased risk of accident at Seabrook. In fact we think that Intervenors' own affiants demonstrated that the Commission is holding the public safety in high regard.

64/ The affiants noted that the NRC staff planned to evaluate the proficiency of all Seabrook shift crews under simulated accident conditions in mid-December 1989. Joint affidavit of Gregory C. Minor and Steven C. Sholly at 6.

B. The Remaining Factors

Given the lack of any showing of irreparable harm to Intervenors, a

strong showing. would need to be made on the remaining stay factors in order for any stay to be granted. Our discussion of the litigated issues in our immediate effectiveness section is fully applicable here. That discussion indicates that Intervenors have certainly not made a strong showing that they are likely to prevail on the merits of further appeals. We offer no comment at this point on how a stay could harm Applicants' interests or affect the reliability of electrical power in the New England area - matters which, if considered, could not bolster Intervenors' case in any event. However, we do believe strongly that a stay at this point would be contrary to the public interest which underlies the mandate to us in 5 U.S.C. §558 to complete license application proceedings

within a reasonable time with due regard for the richts of the parties.

Conclusion

For the reasons explained above, the Director of NRR may issue the license authorized by the Licensing Board in LBP-89-32 on a schedule consistent with the following provisions for a housekeeping stay. Given the controversy which has surrounded the Seabrook plant since these proceedings commenced, we fully expect that judicial review of this decision will be sought. As a courtesy to the parties to pemit the filing of judicial stay motions, the effective date of this decision will be March 8, 1990. If motions for a stay are filed by plant opponents with the U.S. Court of Appeals within this

period, then the decisions effective date will be one week after the relevant motions are filed.

It is so ORDERED.

Dated at Rockville, Maryland
this 1st day of March, 1990

For the Commission

---

66 Commissioners Curtiss and Remick abstained from consideration of this matter.

The Applicants and the NRC staff thereafter, on December 8 and 17 respectively, filed their responses in opposition to the grant of the stay.

A. The Irreparable Injury Factor

Of the four stay factors, it is well established that "the most crucial [factor] is whether irreparable injury will be incurred by the movant absent a

stay." Alabama Power Company (Joseph M. Farley Nuclear Plant Units 1 and 2), CLI-81-927, 14 NRC 795, 797 (1981). For that reason we turn first to Intervenors' claims of harm to them. The claims appear to boil down to three categories of harm: 1) an alleged due process harm, focusing on a claim that they are harmed by being forced to seek a stay of license issuance even after a victory before the Appeal Board; (2) an alleged cost and resource harm (3) an alleged harm from increased risks during operations by allegedly untrained operators.

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10 C.F.R. § 50.47 Emergency Plans.

(a)(1) Except as provided in paragraph (d) of this section, no operating license for a nuclear power reactor will be issued unless a finding is made by NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

(2) The NRC will base its findings on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and whether there is reasonable assurance that they can be implemented. A FEMA finding will be primarily based on a review of the plans. Any other information already available to FEMA

may be considered in assessing whether there is reasonable assurance that the plans can be implemented. In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on questions of adequacy and implementation capability.

(b) The onsite and, except as provided in paragraph (d) of this section, offsite emergency response plans for nuclear power reactors must meet the following standards:

(1) Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each

principle response organization has staff to respond and to augment its initial response on a continuous basis.

(2) On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

(3) Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and

other organizations capable of augmenting the planned response have been identified.

(4) A standard emergency classification and action level scheme, the bases of which include facility system and effluent paramenters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

(5) Procedures have been established for notification, by the licensee, of State and local response organizations and for notification, of emergency personnel by all organizations; the content of initial and follow up messages to response organizations and

the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

(6) Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

(7) Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g. listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established

in advance, and procedures for coordinated dissemination of information to the public are established.

(8) Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

(9) Adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

(10) A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance are developed and in place, and protective actions for the ingestion

exposure pathway EPZ appropriate to the locale have been developed.

(11) Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means of controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

(12) Arrangements are made for medical services for contaminated injured individuals.

(13) General plans for recovery and reentry are developed.

(14) Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and

deficiencies identified as a result of exercises or drills are (will be) corrected.

(15) Radiological emergency response training is provided to those who may be called on to assist in an emergency.

(16) Responsibilities for plan development and review and for distribution of emergency plans are established and planners are properly trained.

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PUBLIC LAW 96-295 [S.562]; June 30, 1980

AUTHORIZATION, APPROPRIATIONS -NUCLEAR REGULATORY COMMISSION

For Legislative History of this and other Laws, see Table 1, Public Laws and Legislative History, at end of final volume.

An Act to authorize appropriations to the Nuclear Regulatory Commission in accordance with section 261 of the Atomic Energy Act of 1954, as amended, and section 305 of the Energy Reorganization Act of 1974, as amended, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE 1-AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 1980

Sec. 101.(a) There is hereby authorized to be appropriated to the Nuclear Regulatory Commission in accordance with the provisions of section 261 of the Atomic Energy Act of 1954 (42 U.S.C. 2017) and section 305 of the Energy Reorganization Act of 1974 (42 U.S.C. 5875), for the fiscal year 1980, the sum of $426,821,000, to remain available until expended. Of such total amount authorized to be appropriated:

(1) not more than $66,510,000, may be used for "Nuclear Reactor Regulation", of which an amount not to exceed $1,000,000 is authorized to accelerate the effort in gas-cooled thermal reactor preapplication review;

(2) not more than $42,440,000, may be used for "Inspection and Enforcement"; of the total amount appropriated for this purpose, $4,648,000 shall be available for support for 146 additional inspectors for the Resident Inspector program;

(3) not more than $15,953,000, may be used for "Standards Development";

(4) not more than $32,380,000, may be used for "Nuclear Material Safety and Safeguards"; of the total amount appropriated for this purpose -

(A) not less than $60,000 shall be available only for the employment by the Commission of two qualified individuals to be assigned by the Commission for implementation of the United

States International Atomic Energy Agency Safeguards Treaty, following ratification of such treaty by the United States Senate;

(B) not less than $180,000 and six additional positions shall be included in the Division of Safeguards for the regulatory improvement of material control and accounting safeguards and the development of improved regulatory requirements for safeguarding the transportation of spent fuel; and

(C) not less than $9,675,000 shall be available for Nuclear Waste Disposal and Management activities,

including support for five additional positions in the Division of Waste Management for implementation of the Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604; 42 U.S.C. 7901 and following);

(5) not more than $213,005,000, may be used for "Nuclear Regulatory Research", of which promulgates regulations establishing demographic requirements for the siting of utilization facilities. Such regulations shall be promulgated by the Commission after notice and opportunity for hearing in accordance with section 553 of title 5 of the United States Code. For purposes of this section, the term

"utilization facility" means a facility licensed under section 103 or 104(b) of the Atomic Energy Act of 1954.

(b) The regulations promulgated pursuant to this section shall provide that no construction permit may be issued for a utilization facility to which this section applies after the date of such promulgation unless the facility complies with the requirements set forth in such regulations, except that regulations promulgated under this section shall not apply to any facility for which an application for a construction permit was filed or or before October 1, 1979.

(c) The regulations promulgated pursuant to this section shall

specify demographic criteria for facility siting, including maximum population density and population distribution for zones surrounding the facility without regard to any design, engineering, or other differences among such facilities.

(d) The regulations promulgated pursuant to this section shall take into account the feasibility of all actions outside the facility which may be necessary to protect public health and safety in the event of any accidental release of radioactive material from the facility which may endanger public health or safety. For purposes of this subsection the term "accidental release" includes, but is not limited to each potential accidental

release of radioactive material which is required by the Commission to be taken into account for purposes of facility design.

(e) The Commission shall provide information and recommendations to state and local land use planning authorities having jurisdiction over the zones established under the regulations promulgated pursuant to this section and over areas beyond the zones which may be affected by a radiological emergency. The information and recommendations provided under this subsection shall be designed to assist such authorities in making State and local land use decisions which may affect emergency planning in relation to utilization facilities.

(f) Nothing in this section shall be construed to provide that the Commission shall have any authority to preempt any State requirement relating to land use or respecting the siting of any utilization facility, except that no State or local land use or facility siting requirement relating to the same aspect of facility siting as a requirement established pursuant to this section shall have any force and effect unless such State or local requirement is identical to, or more stringent than, the requirement promulgated to this section.

Sec. 109.(a) Funds authorized to be appropriated pursuant to this Act may be used by the Nuclear Regulatory

Commission to conduct proceedings and take other actions, with respect to the issuances of an operating license for a utilization facility only if the Commission determines that-

(1) there exists a State or local emergency prepardness plan which-

(A) provides for responding to accidents at the facility concerned, and

(B) as it applies to the facility concerned only, complies with the Commission's guidelines for such plans, or

(2) in the absence of a plan which satisfies the requirements of paragraph (1), there exists a State, local or utility plan which provides reasonable assurance that public health and safety

is not endangered by operation of the facility concerned.

A determination by the Commission under paragraph (1) may be made only in consultation with the Director of the Federal Emergency Management Agency. If, in any proceeding for the issuance of an operating license for a utilization facility to which this subsection applies, the Commission determines that there exists a reasonable assurance that public health and safety is endangered by operation of the facility, the Commission shall identify the risk to public health and safety and provide the applicant with a detailed statement of the reasons for such determination. For purposes of this section the term "utilization facility" means a facility required to

be licensed under section 103 or 104(b) of the Atomic Energy Act of 1954.

(b) Of the amounts authorized to be appropriated under section 101(a), such sums as may be necessary shall be used by the Nuclear Regulatory Commission to-

(1) establish by rule -

(A) standards for State radiological emergency response plans, developed in consultation with the Director of the Federal Emergency Management Agency, and other appropriate agencies, which provide for the response to a radiological emergency involving any utilization facility,

(B) a requirement that-

(i) the Commission will issue operation facilities only if the Commission determines that-

(I) There exists a State or local radiological emergency response plan which provides for responding to any radiological emergency at the facility concerned and which complies with the Commission's standards for such plans under subparagraph (A).

(II) in the absence of a plan which satisfies the requirements of subclause (I), there exists a State, local, or utility plan which provides reasonable assurance that public health and safety is not endangered by operation of the facility concerned, and

(ii) any determination by the Commission under subclause (I) may be made only in

consultation with the Director of the Federal Emergency Management Agency and other appropriate agencies, and

(C) a mechanism to encourage and assist States to comply as expeditiously as practicable with the standards promulgated under subparagraph (A) of this paragraph.

(2) review of all plans and other preparations respecting such an emergency which have been made by each State in which there is located a utilization facility or in

which construction of such a facility has been commenced and by each State which may be affected (as determined by the Commission) by any such emergency.

(3) assesses the adequacy of the plans and other preparations reviewed under paragraph (2) and the ability of the states involved to carry out emergency evacuations during an emergency referred to in paragraph (1) and submit a report of such assessment to the appropriate committees of the Congress within 6 months of the date of the enactment of this Act.

(4) identify which, if any, of the States described in paragraph (2) do not have adequate plans and preparations for such an emergency and notify the Governor and other appropriate authorities in each such state of the respects in which such plans and preparations, if any, do not conform to the guidelines promulgated under paragraph (1), and

(5) submit a report to Congress containing (A) the results of its actions under the preceeding paragraphs and (B) its recommendations respecting any additional Federal statutory authority

which the Commission deems necessary to provide that adequate plans and preparations for such radiological emergencies are in effect for each State described in paragraph (2).

(c) In carrying out its review and assessment under subsection (b) (2) and (3) and in submitting its report under subsection (a)(5), the Commission shall include a review and assessment, with respect to each utilization facility and each site for which a construction permit has been issued for such a facility, of the emergency

response capability of State and local authorities and of the owner or (operator or proposed owner or operator) of such facility. Such review and assessment shall include a determination by the Commission of the maximum zone in the vicinity of each such facility for which evacuation of individuals is feasible at various different times corresponding to the representative warning times for various different types of accidents.

Sec. 110.(a) Of the amounts authorized to be appropriated pursuant to section 101(a), such sums as may be necessary shall be

used by the Nuclear Regulatory Commission to develop, submit to the Congress, and implement, as soon as practicable after notice and opportunity for public comment, a comprehensive plan for the systematic safety evaluation of all currently operating utilization facilities required to be licensed under section 103 or section 104(b) of the Atomic Energy Act of 1954.

(b) The plan referred to in subsection (a) shall include-

(1) the identification of each current rule and regulation compliance with which the Commission specifically determines to be of particular significance to the protection of the public health and safety;

(2) a determination by the Commission of the extent to which each operating facility complies with each rule and regulation identified under paragraph (1) of this subsection, including an indication of where such compliances was achieved by use of Division 1 regulatory guides and staff technical positions and where compliance was achieved by equivalent means:

(3) a list of the generic safety issues set forth in NUREG 0410 (including ategories A, B, C, and D) for which technical solutions have been developed:

(4) a determination by the Commission of which technical solutions for generic safety issues identified in paragraph (3) of this subsection should be incorporated into the Commission's rules and regulations: and

(5) a schedule for developing a technical solution to those generic safety issues listed in NUREG 0410 which have not yet been technically resolved.

APPE

VOL.

ENDIX

III

90 Nos. 1657 (4)

Supreme Court, U.S.
FILED
APR 25 1991
CLERK

In the Supreme Court of the United States

October Term, 1990

COMMONWEALTH OF MASSACHUSETTS
SEACOAST ANTI POLLUTION LEAGUE,
NEW ENGLAND COALITION ON
NUCLEAR POLLUTION, TOWN OF HAMPTON
Petitioners,

v.

NUCLEAR REGULATORY COMMISSION, et al.
Respondents.

Appendix to Petition
for a Writ of Certiorari to the
United States Court of Appeals for
the District of Columbia Circuit
Volume III

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In the Matter of:

DISCUSSION AND VOTE ON EMERGENCY PREPAREDNESS RULE

DATE: JULY 23, 1980 PAGES: 1 thru 135

Washington, D.C.

AGENCY HOLDING THE MEETING:
Nuclear Regulatory Commission

TIME AND DATE: Week of July 21 (Revised)

PLACE: Commissioners' Conference Room, 1717 H St., N.W., Washington, D.C.

STATUS: Open/Closed (Changes)

MATTERS TO BE CONSIDERED:

Monday, July 21

9:30 a.m. Budget Presentations (Approx 3 hrs) (CLOSED-EXEMPTION 9)
- Inspection & Enforcement

2:00 p.m. Budget Presentations (Approx 3 hrs) (CLOSED-EXEMPTION 9)
- Nuclear Regulatory Research

Tuesday, July 22

1:00 p.m. Briefing by Executive Branch on Export Matter (Approx 1 hr) (CLOSED-EXEMPTION 1)

2:00 p.m. Budget Presentations (Approx 3 hrs) (CLOSED-EXEMPTION 9)
Nuclear Reactor Regulation

Wednesday, July 23

9:00 a.m. Budget Presentations (Approx 3 hrs) (CLOSED-EXEMPTION 9)
- Standards Development/ Nuclear Material Safety & Safeguards

1:00 p.m. 1. Discussion of Management Organization & Internal Personnel Matters (Approx 1 1/2 hrs) (CLOSED-EX 2 & 6)

2. Discussion and Vote on Final Rulemaking on Emergency Preparedness (Approx 2 hrs) (PUBLIC MEETING) (RESCHEDULED FROM 7/17)

Thursday, July 24

9:30 a.m. Budget Presentations (Approx 3 hrs) (CLOSED-EXEMPTION 9)
- Administration/EDO Offices

2:00 p.m. 1. Budget Presentations (Approx 3 hrs) (CLOSED EXEMPTION 9)
- Continuation of EDO offices/Commission Offices

2. Affirmation Session (Approx 10 min.) (PUBLIC MEETING)
   a. Pet. for Reconsideration-Denial of Intervenor Funding (TENT)
   b. Order in Psychological Stress at TMI (TENT)

3. Time Reserved for Disc. & Vote on Affirmation Items (if required) (Approx 15 min) (PUBLIC MEETING)

Friday, July 25

2:00 p.m. 1. Budget Presentations
(CLOSED-EX 9)
- Commission offices
(cont'd if required)

2. Discussion of Indian
Point - Approx 2 hrs)
(PUBLIC MEETING)

DISCLAIMER

This is an unofficial transcript of a meeting of the United States Nuclear Regulatory Commission held on July 23, 1980 in the Commission's offices at 1717 H Street, N.W., Washington, D.C. The meeting was open to public attendance and observation. This transcript has not been reveiwed, corrected, or edited, and it may contain inaccuracies.

The transcript is intended solely for general informational purposes. As provided by 10 CFR 9.103, it is not part of the formal or informal record of decision of the matters discussed. Expressions of opinion in this transcript do not necessarily reflect final determinations or beliefs. No pleading or other paper may be filed with the Commission in any proceecing as

the result of or addressed to any statement or argument contained herein, except as the Commission may authorize.

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

DISCUSSION AND VOTE ON EMERGENCY

PREPAREDNESS RULE

PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, N.W.
Washington, D. C.
Wednesday, July 22, 1980

The Commission met, pursuant to notice, at 2:35 p.m.

BEFORE:

JOHN F. AHEARNE,
Chairman of the Commission

VICTOR GILINSKY, Commissioner
JOSEPH M. HENDRIE, Commissioner
PETER A. BRADFORD, Commission

ALSO PRESENT,

L. BICKWIT
S. CHILK
M. JAMGOCHIAN
C. GOLLEE
A. KENNEKE
M. MALSCH
K. PERKINS
F. PAGANO
L. JOHNSON

Pages 1 through 135

PROCEEDINGS

CHAIRMAN AHERNE: The subject of the meeting this afternoon is to address further the emergency planning rule. Let me try to at least give a brief summary of some background. I am sure there are other items.

In December of '78 the Commission was briefed on a Joint NRC/EP Task Force report. We agreed to issue that for comment and it was sent out in December of 1978. It was issued for public comments. Obviously In March of '79 we had the Three Mile Island accident.

In June of '79 the Commission met to discuss emergency planning. Amongst other items, we address the GAO report on areas around nuclear facilities should be better prepared for radiological emergencies. In June of

'79 at that meeting requested establishing a task force on emergency planning and we also directed preparation of a notice of our intent to hold a rule-making on emergency planning.

In June of '79 we got a briefing on the progress of the task force. In July of '79 we sent out in advanced notice of proposed rule-making. The staff analysis of those comments have been published as a NUREG document. In September of '79 we got a briefing on the report of the task force on emergency planning. In November and December of '79 we hold at least four meetings to discussed the draft emergency planning rule. In December of '79 we published the proposed amendments for upgrading the emergency planning regulations, the draft rule.

In January of '80 there were regional workshops held in four sites in the country to describe and discuss the draft rule. In June of '80, early in June this year, the staff submitted their draft final rule, and that then received modifications and changes. In the middle of June we were briefed by the staff on the draft final rule. At the end of June we held a meeting to hear presentations from panels representing a broad spectrum of organizations and individuals concerned and interested in the rule. In the beginning of July we were briefed on the staff response to the panel presentations.

Now we have in front of us then a rule that has received a large amount of Commission attention. It has been

through the advance notice, public comment, draft rule and public comment. What I would today is to at least try to see whether we can't work through a number of the lastest [sic] comments that have been received by staff and by the Commissioners on the rule.

Prior to do that we have had one other major, I think, piece of advice on the rule, and that is the Congressional Authorization Committees have acted on the conference and have put some language into legislation. The general counsel has been discussing that issue with some of the Congressional staff and perhaps it would be appropriate, Len, for you to describe that.

MR. BICKWIT: Thank you, Mr. Chairman.

I guess it was approximately two weeks ago I had some telephone calls from the Senate Nuclear Regulation Subcommittee staff from Paul Leventhal and Keith Glazer expressing concern that the proposed final rule as they read it conceivably was not consistent with Congressional intent as it regarded the licensing of new plants. It did not make that representation with respect to the provisions in the proposed final rule related to existing plants.

CHAIRMAN AHEARNE: This rule was the draft that had been presented by the staff in June?

MR. BICKWIT: That is right.

CHAIRMAN AHEARNE: These are members of what committee staff?

MR. BICKWIT: This is the Nuclear Regulatory Subcommittee staff of the

Senate side. Their major concern was that it had been their understanding ...

CHAIRMAN AHERNE: One other question. Do the [sic] represent the majority or the minority?

MR. BICKWIT: They purported to represent only the majority in this discussion, although they suspected that the minority staff would subscribe to some of the things they were saying.

Their concern was that under the rule as drafted it was not clear to them that the Commission contemplated that in the absence of a plan, of a state or local plan which fully complied with the requirements of the rule that the Commission intended to look at the utility's plan to see whether that plan could conmpensate for the deficiencies of the state and local plans.

They said it was a central feature of the agreement reached in conference that that would be the case.

CHAIRMAN AHEARNE: Their concern was that our rule was too harsh?

MR. BICKWIT: That is true.

CHAIRMAN AHEARNE: Their interpretation of the Congressional action was that a more flexible rule was intended by the Congress?

MR. BICKWIT: That is correct. I told them, as I have told the Commission, that the way our office has read the legislation that the legislation provides for minimum requirements for a rule and therefore the Commission is free from a legal standpoint to be as stringent as it chooses to be under the law. They disagreed with that assessment.

Others I have spoken to on the Hill have expressed agreement with that.

COMMISSIONER BRADFORD: With which side?

MR. BICKWIT: Agreement with the interpretation I have given to the Commission.

CHAIRMAN AHEARNE: Which side of that interpretation? You indicated your view and then the Congressional staff's view.

MR. BICKWIT: The view that I have given to the Commission as opposed to the Congressional staff's view. What we have termed the Congressional staff's view may not be in fact the Congressional staff's view. It may be the view of only some among Congressional staff.

It was because it was unclear exactly what the staff as a group up on the Hill were saying that I thought it would be appropriate to see if the Members of the conference wanted to express themselves by letter on this particular subject.

In suggesting that to the Senate Nuclear Regulation Subcommittee staff they suggested that an alternative arrangement might be possible. This followed from my pointing out to them that there was a phrase in the Commission's rule which I felt would make that rule consistent with the Congressional intent as they understood it. That phrase states that the state and local plan need not comply with the requirements in the rule if alternative

compensatory actions are taken with respect t the deficiencies.

I told them that I believed it was the Commission's view that one of the alternative compensatory actions that might be looked at would be the actions taken by a utility in any kind of utility plan that might compensate for the deficiencies. I asked them if the Commission were to include language that specifically state that intent it would make the rule consistent in their view with the intent of the Congress as they saw it, and they said yes.

Again, they did not purport to be speaking for all Congressional staff, but they believed that would make things consistent.

Now, I want to reiterate my view that whether or not the Commission

chooses to do that is not a legal matter. As I read the legislation and the supporting legislative history, the Commmission is free to go beyond the minimum requirements set by the Congress. I believe this to be true despite the fact that Congressional staff representations are to the contrary. I believe Congressional staff representations at this point, or even representations by the Members of the Congress themselves, would not have legal weight. So I think that the Commission's options are not limited by these expressions of opinion.

However, if it is the commmission's view that alternative compensatory actions would include a look at the utility's plan to see whether that plan was in fact compensatory, then I would

suggest stating that in the supplementary information associated with the rule. I have proposed some language which you have before you as Enclosure 1.

CHAIRMAR AHEARNE: Len, when you say that you discussed with other people on the Hill and they supported your other position, were these people involved in the conference?

MR. BICKWIT: Yes. I am talking about people on the House side. So that it was a somewhat confused communication that I was getting from the Hill. As a result I felt if the Congress were to express themselves on this particular issue it would be best that it be done by letter. At this point I see no need for such a letter. I would see no need for it from a legal standpoint in any event.

CHAIRMAN AHEARNE: I am not confused by what you are saying. Are you saying that you talked to staff members who participated in the conference and some had one interpretation and some had another?

MR. BICKWIT: That is right. That is what I am saying. I am saying that the only members of the Congressional staffs which have clearly expressed themselves as saying that our proposed final rule was inconsistent with Congressional intent have now agreed that this particular language would make it consistent with that intent. As I finished that sentence I think I have to retract it to some degree ---

(Laughter.)

MR. BICKWIT: --- because at this point I do not know exactly where the

minority staff of the subcommittee stands on this question.

CHAIRMAN AHEARNE: So what you are saying is that you are confident that the majority staff of the Senate subcommittee would agree that the language that you have is consistent with the intent of the Congress?

MR. BICKWIT: That is right. I have made an inquiry of the minority staff and I have not had an answer.

CHAIRMAN AHEARNE: You are not sure also what the opinion would be of either the majority or minority staff of the House side?

MR. BICKWIT: I am not.

COMMISSIONER GILINSKY: You are now referring to Enclosure 1.

MR. BICKWIT: I am referring to Enclosure 1.

COMMISSIONER HENDRIE: Enclosure 1, when you say at the end of the first paragraph on page 6, there are several versions ---

CHAIRMAN AHEARNEL I would suggest you work on the last document, the one that SECY distributed.

COMMISSIONER HENDRIE: 7/15/80.

CHAIRMAN AHEARNE: That at least had all of the previous changes.

COMMISSIONER HENDRIE: Oh, I see where it goes. Okay.

CHAIRMAN AHEARNE: Now, does everybody have that version.

MR. BICKWIT: About six lines down.

COMMISSIONER HENDRIE: Would any part of Enclosure 1 language then also occur over at the top of page 39?

MR. BICKWIT: I don't think that is necessary.

COMMISSIONER HENDRIE: Having explained it up in the front end, why there is no need to put the explanation in the actual rule.

MR. BICKWIT: That is right. You are explaining what that language means as it is used in the rule.

COMMISSIONER HENDRIE: Okay, good.

MR. BICKWIT: Again, if that is not what you meant, I see no legal reason for the Commission to adopt that language as a result of these communications. It if is what you meant, I think it would be appropriate to include that lanquage on page 5.

COMMISSIONER HENDRIES: Let's see, the language is drawn right out of the Authorization Act, right, section 10.

MR. BICKWIT: No, it is not.

CHAIRMAN AHEARNE: It is not in the Authorization Act. It is drawn out of the conversations Len has had with the Majority Members of the Senate subcommittee.

MR. BICKWIT: That is right.

COMMISSIONER HENDRIE: Well, there is a certain parallel. Section 109(2) of Public Law 96-295 says "In the absence of a plan which satisfies the requirements of paragraph 1", i.e., everybody has checked off on it "there exists a state, local or utility plan which provides reasonable assurance that public health and safety is not endangered by operations of the facility itself."

This says "In determining the sufficiency the Commission will examine state plans, local plans or licensee

plans to determine whether features compensate" et cetera, et cetera. It is not identical.

CHAIRMAN AHEARNE: Will you comment on the two points raised?

COMMISSIONER HENDRIE: Well, I would be inclined to put in Enclosure 1 as he has suggested.

Now, what is the other point?

MR. BICKWIT: Enclosure 2 is an entirely seperate matter.

COMMISSIONER HENDRIE: We ought to settle Enclosure 1.

CHAIRMAN AHEARNE: Vic or Peter?

COMMISSIONER BRADFORD: I have no problem with Enclosure 1, but I would prefer to say alternative equally effective compensatory action instead of simply alternative compensatory actions. I would still have no problem with using Enclosure 1.

CHAIRMAN AHEARNE: Len?

MR. BICKWIT: That is a policy question.

CHAIRMAN AHEARNE: You are the one who has held these discussions.

MR. BICKWIT: I am not sure what your question is.

CHAIRMAN AHEARNE: My question is, your presentation of this paragraph was this is a paragraph which I gather Mr. Leventhal and Mr. Glazer would agree tracks with the conference's intent.

MR. BICKWIT: They would agree that Peter's language tracks with the conference's intent, if that is your question.

CHAIRMAN AHEARNE: Yes, that was my question.

Peter, where would you stick those two in?

COMMISSIONER BRADFORD: I would just put the words equally effective in between alternative and compensatory in our rule. So it is not really an insert to Enclosure 1.

COMMISSIONER HENDRIE: You proposed that kind of language in a number of places in the statement of considerations and the rule language itself and I would like to hold and debate that point later on because I have some problems with that terminology.

CHAIRMAN AHEARNE: Victor?

COMMISSIONER GILINSKY: Yes, that is fine.

CHAIRMAN AHEARNE: Who is keeping track? Mike, you are keeping track. I think we all then agree with the inclusion of that paragraph. There is a hold question on Peter's alternative

"equally effective" because that, as Peter points out, that is really a phrase that is throughout the rule.

Len, why don't you address your second enclosure and then we are going to have to go through a whole set of things Peter has proposed.

MR. BICKWIT: The second enclosure is simply designed to conform the supplementary information of the rule with the text of the rule as it is proposed to be adopted.

The proposed language in the rule as you now have it before you is not alternative "A" as that alternative existed in the original proposed rule. It is a more flexible version of alternative "A". This simply states that clearly.

Our feel was that without a statement of this kind some might be under the misimpression that the Commission had adopted alternative "A" as its choice for lamguage, and the Commission has not done that.

Consistent with that change we would also propose that the last sentence on page 3 carrying over to page 4 would be deleted.

CHAIRMAN AHEARNE: Why?

COMMISSIONER HENDRIE: Well, wait a minute. Let's start on page 22.

COMMISSIONER BRADFORD: I ought to just note that I had also revised that same paragragh for some of the same reasons, but since some of my changes went in another direction, why my phrasing was slightly different.

CHAIRMAN AHEARNE: Perhaps we ought to wait then until we get to page 22.

COMMISSIONER BRADFORD: I agree with Len's point. If in fact the rule stays the way it is then I would vote for Enclosure 2 because it is not a straight alternative "A".

CHAIRMAN AHEARNE: Yes. I think then we ought to hold that one in abeyance.

COMMISSIONER BRADFORD: Fine.

COMMISSIONER HENDRIE: Well, I doubt there is much dispute. What we could do is sort of tentatively agree to take Len's recommendation and then when we get to that point we could see what changes he might want to work upon the Enclosure 2 language.

Len, you don't mean the first two sentences, do you?

MR. BICKWIT: On page 22?

COMMISSIONER HENDRIE: Yes. You mean the first sentence, don't you?

MR. BICKWIT: I think I did mean the first two.

COMMISSIONER BRADFORD: You just dropped the discussion of alternative "B" altogether?

MR. BICKWTT: No. I think what you are referring to is the Commission's choice is consistent with most of the comments received from state and local governments.

CHAIRMAN AHEARNE: And consistent with the provision.

MR. BICKWIT: Yes.

COMMISSIONER HENDRIE: That continues to be the fact so far as I know.

MR. BICKWIT: I am not sure the first part of that sentence is right. I don't know whether most of the comments referenced this particular change in alternative "A".

CHAIRMAN AHEARNE: Let me ask. Mike.

MR. JAMGOCHIAN: I am sorry, I am writing. What was the question?

CHAIRMAN AHEARNE: This is on page 22. This is the major paragraph on page 22. It says "After careful consideration," that paragraph.

MR. JAMGOCHIAN: Yes.

CHAIRMAN AHEARNE: The second sentence, "This Commission choice is consistent with most of the comments received from state and local governments." General counsel is asking is that accurate.

MR. JAMGOCHIAN: Yes, sir.

COMMISSIONER HENDRIE: Enclosure 2 replaces the first sentence.

MR. BICKWIT: The first sentence, right.

COMMISSIONER BRADFORD: No, because that is the third sentence that you are talking about now. The second sentence is the one that becins "Alternative B."

CHAIRMAN AHEARNE: No.

COMMISSIONER BRADFORD: No?

COMMMISSIONER HENDRIE: You have got the wrong draft.

COMMISSIONER BRADFORD: Have I got the wrong draft? I am working from my draft.

CHAIRMAN AHEARNE: July 15th.

COMMISSIONER BRADFORD: The alternative "B" discussion is gone anyway. I have that also.

(Laughter.)

COMMISSIONER BRADF0RD: I can only work from three drafts at a time.

(Laughter.)

COMMISSION BRADFORD: The sentence I would like to get rid of is the one ---

CHAIRMAN AHEARNE: I think we really have to work through page by page and then we will get to yours.

COMMISSIONER BRADFORD: Okay.

MR. BICKWIT: One other thing. In light of my statement we are all right on leaving that sentence on page 3 going over to page 4.

MR. JAMGOCHIAN: Actually it should say "similar to alternative "A" if you are going by your Enclosure 2. It would be more accurate.

MR. BICKWIT: Has adopted a version similar to ---

MR. JOHNSON: Similar to alternative "A".

MR. BICKWIT: Similar to alternative "A". I would prefer that.

CHAIRMAN AHEARNE: Well, let's start back at the beginning if we can because we have got enough changes on various pages. So let me start with page 1.

COMMISSIONER BRADFORD: Let me ask a question about the history of this document. Is this the same as 275 as modified by 275-A and B?

MR. CHILK: And the comments that were made.

COMMISSIONER BRADFORD: Commission office comments, okay.

CHAIRMAN AHEARNE: But put into a clean version.

COMMISSIONER BRADFORD: Right.

CHAIRMAN AHEARNE: As a result a number of the pages now are different.

COMMISSIONER BRADFORD: Yes. The page number doesn't trouble me, but it would not be safe even to be using 275-B as identical to what SECY circulated.

CHAIRMAN AHEARNE: Right.

MR. CHILK: Almost everything that you have can be tracked.

CHAIRMAN AHEARNE: Hopefully everything can be tracked.

(Laughter.)

COMMISSIONER BRADFORD: But one may have to have some things that we don't have to track it.

COMMISSIONER AHEARNE: Let me start on page 1.

Carl.

MR. GOLLER: It would be useful to summarize what that particular copy does

include or does not include. The version that was submitted by the staff on the 15th includes all of the changes of the staff recommended to the Commission in SECY 80-275-A and all the changes in 275-B. In some cases one superseded the other. It includes all changes that were suggested in the memo by Mr. Sauter of July 11, 1980, to all of the Commissioners. It includes changes that were indicated to the Commission in a note to the SECY relative to changes that were necessary to conform the rule to the latest FEMA rulemaking. This was noted in detail.

CHAIRMAN AHEARNE: That was a note from you.

MR. GOLLER: Yes, sir. It also includes a considerable number of editorial changes that were received

from a variety of sources, some from the staff, some from Mr. Sauter and some from other Commission offices, none of which, in our opinion, change the intent or the substance of the rule, but all of which are improvements and are truly editorial changes.

This version does not include one correction which should have been included in the changes I just indicated, which was a deletion of a phrase on page 49 in item two relating to the provisions that would be made for transients which was identified in 275-A. This was an oversight.

CHAIRMAN AHEARNE: It was the deletion of a phrase and the addition of another sentence.

MR. GOLLER: The addition of another sentence which went further

toward clarifying. This was simply a typographical oversight and a correction that does need to be made. It does not include the two suggested changes by way of enclosures that we have just been discussing that originate from OGC, and it does not include any further changes most recently identified by Commissioner Bradford.

CHAIRMAN AHEARNE: That would have been very difficult.

COMMISSIONER BRADFORD: That would have been hard to get in.

CHAIRMAN AHEARNE: Yes.

All right, can we start on page 1. The question on page 1, Peter, you in many places have changed "appropriate" to "effective." Can you describe what the significance of that is?

COMMISSIONER BRADFORD: Appropriate just to me is a lazy word. It is sort of a substitute for thought. "Effective," means something. It doesn't mean a whole lot more, but it means that we actually think they will work.

CHAIRMAN AHEARNE: Can I ask the Standards office to tell us whether there is any difference from a regulatory standards approach on "effective" versus "appropriate."

MR. GOLLER: Yes, sir, we think that there is a substitute difference between those two words.

COMMISSIONER BRADFORD: It could be ineffective and still be appropriate?

(Laughter.)

MR. COLLER: No, sir, but I think there is a difference in meaning between the two words as used.

CHAIRMAN AHEARNE: Could you try to describe difference?

MR. JAMGOCHIAN: In going through your comments, and we only had about a half hour to go through them, in a real quick analysis, when you have an emergency you take appropriate protective measures. Now, you have to consider the weather. You have to consider a lot of things. You may not evacuate because of six or ten inches of snow outside. You just may take shelter. That would be appropriate, but in some people's minds that may not be totally effective. We have gone all along in our regulations that you take appropriate protective measures. You know, who determines what you have done is really effective?

COMMISSIONER GILINSKY: Well, appropriate means you take the right ones. The way you chose the right ones is on the basis of effectiveness. Now, they may not be totally effective.

MR. KENNEKE: Mike's point is some measures may reduce your dose further but may increase your risks of other kinds.

MR. JAMGOCHIAN: With appropriate you take everything into consideration.

MR. KENNEKE: You might save another ten rems by driving through a crowd but it might endanger your life to do so.

MR. JAMGOCHIAN: Right.

MR. KENNEKE: So that says it would be inappropriate although more radiologically effective.

MR. JAMGOCHIAN: Effective, yes, sir.

MR. KENNEKE: I think their interpretation of effective means radiologically effective whereas appropriate means effective in an overall risk kind of context.

COMMISSIONER BRADFORD: But we are making a finding as to whether a particular plan provides reasonable assurance that effective or appropriate, but I am saying effective measures can be taken. It seems to me if we can't say that the plan provides reasonable assurance of effective measures then we ought to be thinking some more. I mean if in fact the climate is such that it is so likely that the measures which we would consider appropriate would not also be effective, then there are some

serious questions about a plan in that climate.

MR. JAMGOCHIAH: Isn't effective more inclined to be looked at as after the fact?

COMMISSIONER GILINSKY: No, but this has to do with a finding before the fact, as Peter points out. In other words, it may turn out that you were wrong, but in making the finding initially it seems to me that you have to make it on the basis that you think that offective action will be taken, or it least you have reasonable assurance.

CHAIRMAN AHEARNE: Mike, why don't you and Carl come up here to the table.

MR. GOLLER: Before you take actions which you consider appropriate which might even be anticipatory, it may turn out that they were unnecessary or

the accident had taken some different course and the action you took wasn't effective at all.

COMMISSIONER GILINSKY: But that is a whole separate question.

CHAIRMAN AHEARNE: Mike and Carl, sit down, please. I suspect you will be here a while.

(Laughter.)

(At this point Messrs. Goller and Jamgochian take seats at the table.)

COMMISSIONER GILINSKY: You are talking about findings that one is making in advance of any exercise of these plans or measures.

CHAIRMAN AHEARNE: Let me ask the lawyers -- really no intent meant, Peter. Let me ask general counsel.

MR. BICKWIT: I agree with Standards that there is a difference.

COMMISSIONER BRADFORD: Yes, I agree that there is a difference.

COMMISSIONER AHEARNE: What kind of difference?

MR. BICKWIT: The difference, I think they hit it on the head, that appropriate entails some interest balancing, whereas effective is an absolute word. It is either effective or it isn't effective. So in answer to your question, it could be ineffective and appropriate in the sense that it would not be totally effective. It could be appropriate without being totally effective.

CHAIRMAN AHEARNE: Let me ask you, Len, let's just consider that we are trying to do an assessment of the emergency planning measures of a plant, any particular plant. Whether it our

staff or FEMA staff that is looking at that, what kind of a criterion would they be looking at? Would they be trying to judge whether the measures that are being proposed, if I say they are appropriate doesn't the sense of appropriateness carry with it the sense of what is appropriate is something that would be effective?

MR. BICKWIT: Yes, but if you are asking me whether there is a difference, I think we all perceive a difference here. The policy judgment is do you want them ---

CHAIRMAN AHEARNE: Let's not say "we" because, unfortunately, my problem is that I am not seeing the difference.

MR. BICKWIT: I see. Well, I think there ought not to be a difference. There could be a difference.

CHAIRMAN AHEARNE: Well, I don't think there ought to be a difference.

COMMISSIONER HENDRIE: If there is a difference, those people that perceive a difference ought to vote for appropriate.

COMMISSIONER BRADFORD: Oh, no.

COMMISSIONER HENDRIE: Yes, because the proper action for protection of the public in some circumstances may be no action. Okay?

COMMISSIONER BRADFORD: That may also be the effective action.

COMMISSIONER HENDRIE: If you perceive a difference and would rule out in some peculiar circumstance zero action as being ineffective on the face of it, then you have to agree that approprite is the word that is needed here.

COMMISSIONER BRADFORD: On the contrary, what I am saying is that at the point where a finding is being made what we are doing here is setting the finding that is necessary for a license or for operation. If you are confronted by a situation in which the only effective action is one of the sort that somebody, perhaps it was Al who hypothesized that people would have to drive through a crowd in a hurry to get away, and you could say, all ri:ght, that plan can be licensed because then the effective action is going to be for that person to say where they are and not get away. I am saying that is not a standard I am prepared to accept. If at that point in time you cannot make the finding that there are effective actions contemplated by the plan and that you

have reasonable assurance of being able to do them, never mind if there is a tornado blowing or something of that sort, then I don't think the finding ought to be made.

I do see a difference in the sense that the word "appropriate" -- it is as though you had two circles and then they overlap. There is hopefully a very substantial area in which appropriate and effective mean the same thing, but there is an outer shading to appropriate in which you could rationalize the situation by just shrugging and saying, well, the appropriate action unfortunately is going to do a lot of damage but we still agree it was the appropriate thing to do and the plan should be there.

What I am saying is that in that area where the finding could be that the action is appropriate but could not be that it is effective, I would have some doubt about the feasibility of making a finding that would permit a license.

COMMISSIONER HENDRIE: You would conclude that even though in a particular case the judgment might be that in 99 percent of what are already not frequent events effective action could occur but that in one percent of such events it might be questionable whether effective action could be taken that would deny a license?

COMMISSIONER BRADFORD: No, I don't think so. I am not sure I am following you, but if you have 99 percent assurance that seems to me to be reasonable assurance.

COMMISSIONER HENDRIE: Well, it certainly to my view is reasonable assurance in terms of the statutory standard. What I am pointing to here is that the difference perceived between effective and appropriate, the word "effective" to the staff, and I think it carries also for me, the sort of connotation that all of these measures in all cases will have to reduce dose and so on, that we cannot contemplate any circumstance in which that might not happen.

You then are confronted with the following situation anywhere north of some reasonable latitude that for one day in every four or ten years or whatever you will have a sufficient snow blockage of the roads so you can't evacuate. If something happens on that

day you aren't going to be able to move people out and you take appropriate action. That means telling them to stay inside which they will probably end up doing involuntarily but it is certainly not the most effective action, or may not be the most effective action for people close in.

To use the word "effective" throughout the rules suggests that that in an impermissible situation and I think it is that connotation which worries some of us who see a difference between the two words.

CHAIRMAN AHEARNE: Let me ask Peter whether that is the connotation he means?

COMMISSIONER BRADFORD: It seems to me that for the kind of situation which you are talking about, abnormal weather conditions or sort of a meteorite

hitting the plant which produces an instant release of large quantities of radioactivity and thereby denies you all of the warning times, assumptions about warning times that are built into the system, that those are likely to get swept away under the reasonable assurance question.

What one is worried about is a situation where an accident occuring on what we might call normal weather with normal warning times you would still be unable to make a finding that effective action could be taken. That is the situation which I am saying. If you can't make that finding, there probably shouldn't be a plan.

CHAIRMAN AHEARNE: Al, did you have something?

MR. KENNEKE: Let me make a suggestion that it seems to me the difference is one of two general approaches to effective action. That is shelter versus evacuation. I think it is evident in the conversation.

I guess I would agree with Commission Bradford that if one would say that the typical conditions are such that you can expect people to be unable to reach shelter because of probable weather conditions then I think he definitely has a strong point. If that is not a question, then we really are splitting hairs over the word "effective" because we really choosing between the relatively effective choice of shelter and evacuation. The evacuation may reduce the dose more but it may be an overall greater risk to

achieve. So let me suggest a different phraseology that perhaps could split the difference if I may.

CHAIRMAN AHEARNE: If we say effective and appropriate that is not splitting hairs.

(Laughter)

MR. KENNEKE: I thought about it first, but it didn't go over very well. Let me try it and maybe it comes to the same thing. I don't think so. Reasonable assurance that an appropriate choice of effective protective measures that can be taken will be made. That is a little different than effective and appropriate.

COMMISSIONER GILINSKY: There is one qualifier in reasonable assurance. If you put in appropriate there is

another qualifier. It is sort of a hedge word.

CHAIRMAN AHEARNE: Carl.

MR. GOLLER: He just touched on the point that I think indicates that "appropriate is the right word. In many case there might be more than one effective way of doing something. There might be any number of effective ways. One best way, that is the appropriate way, that is what you want to ask for.

COMMISSIONER GILINSKY: Any one of them would qualify for effective.

MR. GOLLER: You don't want any one of them. You want the appropriate one.

COMMISSIONER BRADFORD: Wait a minute. There is nothing about appropriate that requires you to choose the best.

MR. GOLLER: That I think is inherent in the word "appropriate" is that you want the best.

CHAIRMAN AHEARNE: I was going to ask Peter what his reaction to Al's suggestion was?

COMMISSIONER BRADFORD: Well, Victor already I think articulated it. I would look for the flexibility in this sentence in the phrase "reasonable assurance." For me it is enough that a reasonable man assessing the plan reasonably would find reasonable assurance of effective protective measures. The blizzard every four years or the bridges being out at the time of the accident I think have to be taken as adding to the original low probability of the accident and not falling within the reasonable assurance question.

In the way I have heard the word "appropriate" being used would suggest that there really is within it no barrier to siting a plant in a heavily populated area because in that situation the appropriate action will in all likelihood be shelter because evacuation will never be possible.

MR. JAMGOCHIAN: What about deleting "effective" or "appropriate"? Reasonable assurance that protective measures can and will be taken.

COMMISSIONER GILINSKY: Well, that is kind of weak because that doesn't say much of anything. It is reasonable assurance that the public will be protected is what this is all about. That is what our regulations say that the public will not be endangered, or something like that.

CHAIRMAN AHEARNE: Victor, you had a comment.

MR. BICKWIT: How about the statutory standard, legal assurance that the public will be adequately protected?

CHAIRMAN AHEARNE: In the event of a radiological event.

Well, Peter?

COMMISSIONER GILINSKY: It seems to me that reasonable assurance of effective protection adds up to adequate protection.

MR. KENNEKE: I think the staff's fear is that words as written will drive the reviewer to say that only evacuation ---

COMMISSIONER GILINSKY: There is nothing here about evacuation.

MR. KENNEKE: No, but I think that is what is behind their concern, that

there has to be an option besides evacuation.

COMMISSIONER GILINSKY: I mean Joe brought up the question of evacuation versus people staying indoors. Now, as far as I understand your views, you regarded that as effective protective action.

MR. BICKWIT: Why don't you strike "reasonable assurance"?

(Laughter.)

MR. BICKWIT: I don't see how the Commissioners can say that the statutory standard is the wrong standard. I mean, it is the one that we use all the time. So why don't you simply say that onsite and offsite emergency preparedness will adequately protect the public in the case of a radiological emergency?

CHAIRMAN AHEARNE: Do you have any problem with that?

COMMISSIONER BRADFORD: Well, if the inclination is to go in that direction I would just change effective to adequate in the formulation I have already proposed. Then the phrase becomes adequate protective instead of adequate protection, but I think that is close enough.

CHAIRMAN AHEARNE: Any problem with adequate? The difficulty I am having is that I would have always thought that appropriate would have been effective.

COMMISSIONER GILINSKY: That is what I thought.

CHAIRMAN AHEARNE: But you see I worry because Peter if finding a problem with appropriate. All of them seem to be equivalent to me.

COMMISSIONER GILINSKY: Appropriate is a vaguer word.

CHAIRMAN AHEARNE: Once the lawyers start telling me, well, no, they are a little bit different, then I feel very uncomfortable because I am not sure what all the nuances really mean.

MR. KENNEKE: The implication in Commissioner Bradford's terms as I see his objection, is that you may do literally nothing to reduce the dose. In their case you have only one option.

CHAIRMAN AHEARNE: But you see the problem I am having is that the interpretations of the misuse of the language is outside of the -- what is that nice phrase that you introduced at one time -- rule of reason.

MR. KENNEKE: Adequate sounds like a good splitting in the middle that both

sides could live with. It wouldn't be a code word to either side.

CHAIRMAN AHEARNE: Peter, adequate is adequate?

COMMISSIONER BRADFORD: Adequate is adequate.

CHAIRMAN AHEARNE: Joe?

COMMISSIONER HENDRIE: I think the word you really want is appropriate.

(Laughter.)

COMMISSIONER BRADFORD: The word you really want is appropriate.

(Laughter.)

COMMISSIONER HENDRIE: To the extent that people see some sort of climbing scale of rigor in the requirements then that worries me with regard to moving off suddenly to a new word.

Now, if somebody tells me, as you do, John, that it seems to you that the appropriate measures are effective, you know, as they turn out in a given circumstance and they are also adequate in the context of the circumstances, then I can agree with you that any one of the three words would serve because they mean about the same.

If we have decided now, having worked on the rule for, what, 15 months, or something like that, that on the day we had hoped to come to a final vote that we are now going to establish a new standard for emergency planning by using "effective" instead of "apppropriate", why of course we say, wait, let me think about what that means.

You know, are you now driving in the direction to say let me ask, what do

we mean by effective? You said, no, it doesn't mean that there may not be circumstances where it turns out that what will have to be done is nothing and people just stay where they are. That is all right. If you say, well, if that is the best you can do most any time, why that is a problem. All right, no difficulty with that. So you tell me, no, it doesn't mean every time. Does "effective" mean that people don't get any exposure?

COMMISSIONER BRADFORD: No. Incidentally, I think we have gone from effective to adequate, or at least I have. But answering for either one, I wouldn't have said it meant no exposure because the whole rest of our rules don't anywhere take the position that zero exposure is required to assure

adequate protection of the public health and safety.

COMMISSIONER HENDRIE: As a matter of fact, the whole thrust of the rule as I perceive it is that we do things with plant design and operation to try to keep things from happening. Then you say if something does happen it seems sensible to us to have pre-existing plans and notification means so that we can take whatever measures are practical to be taken in the particular circumstances as they may occur to reduce the radiological hazard. The circumstances may allow that to be extremely attractive. That is, there may be ample warning times, and I have got a feeling that is probably the likely event, and that indeed

you could move people out in a considered, you know, not hurried way from around the plant and indeed essentially eliminate the potential high exposures close in.

It also contemplates that things may move faster than that and that the best you could hope for is to get word to people to get inside and that some people will hear it and get the word and get inside and some won't, but that there will be some reduction in the exposure by viture of having gotten some more people inside than would have been the case if you hadn't tried.

This whole range of actions that may take place following any given circumstance, what you want is a plan that sort of gives you a reasonable basis for recommending those actions to

people and having your local police force attempt to implement them.

Now, if there is also as you read the rule some sort of requirement here that this to guaranteed in all circumstances and result in either zero or very low exposures in all circumstances, then I must say that goes well beyond the place that I see emergency planning and in fact to a place that I don't think can be achieved. So I have concern about, you know, the changes proposed from appropriate to effective and I can't quite decide whether adequate is, you know, back down a step or is it at the same level laterally or where it is.

It worries me that these words now appear to be coming in late in the stage of consideration of this rule that seem

to have an implication that we are establishing a new standard not contemplated in the comment period and the extensive discussions we have had heretofore. Now, maybe it simply reflects final writer focusing and more careful focusing of our individual views on the matter, but I am not all that happy to go through at the last minute and change a lot of words which clearly have implications that I have trouble seeing where they lie.

COMMISSIONER BRADFORD: Obviously with the concurrence of others I wouldn't insist on a vote today, although I would like to be able to vote today, but I certainly wouldn't want to do it in the face of feeling that stuffy I have circulated at the last minute puts you under the gun like that.

COMMISSIONER HENDRIE: I think it is more than me. What I am trying to discern is, you know, should I perceive this now as presenting a second language in which commenters haven't had a chance to sense what all is here and make comments as they might if they had so sensed. I don't know. I can't tell where you are going with effective. What does it mean.

COMMISSIONER BRADFORD: Let me trying that once more. First of all, as to the business of guaranteed that no one will be exposed or that you would be able to evacuate a hundred percent of the time under all conditions, I really think the phrase "reasonable assurance" takes care of that and that there is obviously a difference between having reasonable assurance or something and

having a guarantee. No one would say that those were synonymous.

For the rest, it is one thing to say that within the framework the plan you would expect there would be some days in which the best you could do would be to recommend sheltering. I agree that that is true and certainly that the plan should contemplate that under those conditions that that is what would be recommended and shouldn't compel you to try to evacuate when you couldn't do it.

COMMISSIONER HENDRIE: As a matter of fact, Peter, there will be some days when you won't be able to execute the plan at least for limited periods because anything like a siren system is bound to have a down time, you know, of

I don't know what, but some small fraction.

COMMISSIONER BRADFORD: But at the moment you are making the finding about the plan's adequacy for the future, then it doesn't seem to me that the plan has to be found inadequate just becauce you know that there are going to be some periods of time when you can't do that which you would really like to be able to do whether because of the conditions of the accident or the conditions of the weather.

I do think that the finding as to what you would expect to prevail during normal or even somewhat less than normal conditions ought to be of a level of adequacy of effectiveness. What I have gathered from the staff comments with regard to what they parceive as the

difference between adequacy and effectiveness on the one hand versus appropriateness on the other is that there really could be situations in which the word "appropriate" would be taken -- and by situations I mean at the time the plans were being reviewed -- the word "appropriate" would really be taken as meaning more or less do the best that you can.

CHAIRMAN AHEARNE: As a normal mode.

COMMISSIONER BRADFORD: As a normal mode. I do think that the word "adequate" or "effective" takes you a level higher than that.

COMMISSIONER GILINSKY: That is what I thought I heard Joe say. I hope I misunderstood you, but you seem to be saying that what we need is to have

assurance that if something happens they will do the best they can.

CHAIRMAN AHEARNE: But you always want to do the best you can.

COMMISSIONNER GILINSKY: What we are saying here is that that best will be pretty good in most circumstances and that is where the reasonable assurance comes in. In other words, what we really want to do is have reasonable assurance that people aren't going to get irradiated to any unhappy degree. That doesn't obviously cover every circumstance and it doesn't mean that when plan in generally effective there won't be some people who aren't going to get picked up in it, but it does mean that we want them to do a bunch of things that will bring thier general

level of performance up in most circumstances, doesn't it?

COMMISSIONER HENDRIE: I don't think so.

CHAIRMAN AHEARNE: I think we all agree that the weight that is in a single word is enormous, clearly. Now, Len has proposed a point which I wonder if it is possible. I don't know where we are going to end up today. In fact, I don't know if today's meeting is going to be the only one of many. Len had pointed out that it might be important to have as a record of decision underlying where we end up the transcript of the meeting.

Let us suppose we choose adeqaute. I think Joe is beginning to be willing almost accept that. I am willing to accept it and I think the other two are

willing to accept it. If we choose adequate, just embedding the word "adequage" isn't going to even begin to describe what we meant by it. Whereas, if the treanscript of the meeting underlay the decision that might be of help to some people who are trying to figure out what do we mean.

Mr. KENNEKE: May I try one more time?

CHAIRMAN AHEARNE: Wait a minute.

COMMISSIONER BRADFORD: The point there being that we would treat this as an official rather than an unofficial transcript?

CHAIRMAN AHEARNE: Yes.

COMMISSIONER BRADFORD: That also contemplates reviewing it then.

COMMISSIONER GILINSKY: I think if we want to make clear what we mean we

ought to write it down and agree on a statement.

MR. KENNEKE: May I try one more time, Mr. Chairman?

CHAIRMAN AHEARNE: I just don't think you are going to get there. If there is this much meaning latent in one word, then there is no way you are going to get everybody to agree on what that means.

MR. KENNEKE: Can I crash myself against the rock one more time?

CHAIRMAN AHEARNE: Of course.

MR. KENNEKE: The staff by their holding out for appropriate, as I read it, they want a choice of measures. Commissioner Bradford wanted to make the point that whatever measure is chosen is effective in significantly reducing dose.

COMMISSIONER GILINSKY: In most circumstances.

MR. KENNEKE: In most circumstances, not an absolute guarantee. So one other thing you might do is simply put a parenthetical after the word "measures" that says "including sheltering and evacuation" which is at least the minimum choice that they need. It also implies on the face of it that evacuation and sheltering can be effective in the terms that I think you wish without changing any other words. That deals with Commissioner Hendrie's concern about changing the words throughout.

COMMISSIONER GILINSKY: Can I ask a question?

CHAIRMAN AHEARNE: Go ahead.

COMMISSIONER BRADFORD: Go ahead. Yes, by all means.

COMMISSIONER GILINSKY: Carl, does appropriate not mean to you that in most circumstances the action will be effective?

MR. GOLLER: Yes, in most circumstances.

COMMISSIONER GILINSKY: The most circumstances is taken up in the reasonable assurance. Then what is your objection?

CHAIRMAN AHEARNE: I could also ask the opposite though of you, Victor. If you agree with that then you should have no problem with appropriate.

COMMISSIONER GILINSKY: I don't think so.

MR. GOLLER: Let me point out that in following sentences of that paragraph

the word "adequate" is used several times in relating it to FEMA's findings. Therefore, the word "adequate" might be the preferred word in that the balance of that sentence goes on to enumerate or define what is meant by adequate.

MR. JAMGOCHIAN: Well, if I may approach that. In writing this there was some concern as to whether we should put down adequate, appropriate or effective. In the other sentence that Carl brought up relative to the plan itself I used the word adequate because in writing a plan a licensee and we, NRC, can judge what an adequate plan is. He has got good communications, good notification, good assessment capabilities and good training. That is an adequate plan.

I stayed away from adequate and effective protective measures because how do you plan for effective protective measures. You know, that is usually after you have had the accident you then say, yes, those were effective protective measures. How would we judge that a licensee planned for adequate or effective measures? That depends on so many parameters.

COMMISSIONER GILINSKY: You have got some standard, and the standard is you want in the event of an accident up want an adequate plan.

COMMISSIONER HENDRIE: You want an adequate plan before the event, if there ever is an event. If an event occurs you want to be sure that appropriate measures have and will be taken.

COMMISSIONER GILINSKY: You want to be sure, reasonably sure that on the basis of this plan action will be taken that will keep people from getting irradiated to any substantial degree.

MR. JAMGOCHIAN: We are on a fine line. I just wanted to let you know what was thought about when drafting this. Also, we wanted to be consistent when the EPA Protective Action Guide Manual. Throughout there they talk about appropriate protective measures as well as the old Appendix E. Emergency preparedness has always been conceived as having reasonable assurance to take appropriate protective measures. I think that is why we are having such a hassle with just one word. It is a significant word.

MR. KENNEKE: It is a code word, there is no doubt about it, historically.

COMMISSIONER BRADFORD: Well, adequate is an historical code word, too, just in a different context.

MR. KENNEKE: Well, I offered a suggestion that would give them their choice for that.

COMMISSIONER BRADFORD: I think adequate is broad enough. I don't have the same concern, I guess, that Victor does about the transcript being available as in effect rule-making history. I have a somewhat different concern, which is that it is going to be very hard for anybody to extract from the four different sets of Commissioner remarks anything that they can use very definitively.

COMMISSIONER GILINSKY: Well, it is available to read.

COMMISSIONER BRADFORD: I would use the word "adequate" and would figure that it is broad enough not to need elaboration.

COMMISSIONER GILINSKY: Remind me again about the statutory language that speaks of adequate protection of the public. It is reasonable assurance of adequate protection?

MR. BICKWIT: No. The statutory language is --

COMMISSIONER GILINSKY: Is adequate protection. The regulations speak of reasonable assurance that the public will not be endangered or something like that. I frankly think one puts in reasonable assurance when you are

talking about the public will be protected.

CHAIRMAN AHEARNE: I would argue for just dropping any modifier and just say the protective measures.

COMMISSIONER GILINSKY: Well, that doesn't say anything about what kind of protective measures. You mean reasonable assurance that the public will be protected. Will not be endangered is the standard language of our regulations.

CHAIRMNAN AHEARNE: Reasonable assurance that the public will be protected in the event of a radiological emergency.

Joe, how do you feel about adequately protected?

COMMISSIONER HENDRIE: That is not quite what this says, is it? They says

you want reasonable assurance that measures, appropriate, effective, adequate or just measures can and will be taken in the event of an emergency. You judge that by seeing that there is what is later called an adequate plan, et cetera.

MR. GOLLER: I think you would lose an important part of the plan if you deleted one of these words.

(Laughter.)

CHAIRMAN AHEARNE: We are not going to get past page one if we don't change one of the words.

(Laughter.)

MR. GOLLER: On this point the staff would recommend adequate after having heard this entire discussion. At least in my mind an important part of

that conclusion is that the word "adequate" is used as a follow-up.

CHAIRMAN AHEARNE: In order to move forward I think I will vote for adequate.

I am not sure if you ever voted, Victor.

COMMISSIONER GILINSKY: I don't think I did.

CHAIRMAN AHEARNE: Would you go along with adequate.

COMMISSIONER GILINSKY: Well, let me hear what Joe says.

CHAIRMAN AHEARNE: Two votes for adequate. Victor would like to hear Joe. Joe?

COMMISSIONER HENDRIE: I still think "appropriate" is the right word, but I guess I would settle out if it would get us on. Yes.

CHAIRMAN AHEARNE: Okay, we have got three votes for "adequate."

MR. GOLLER: Mr. Chairman?

CHAIRMAN AHEARNE: Yes.

MR. GOLLER: This discussion has been on a paragraph in the supplemental information.

(Laughter.)

MR. GOLLER: The one that really counts is the regulations. If you look at page 31, for some reason no change was suggested there. I would presume at this point you would want to make the corresponding change in the rule itself.

CHAIRMAN AHEARNE: Do you win many arguments, Carl?

(Laughter.)

COMMISSIONER BRADFORD: You are absolutely right, Carl. Thank you.

CHAIRMAN AHEARNE: Thank you, Carl. On page 31 you say?

MR. GOLLER: Page 31.

CHAIRMAN AHEARNE: Where?

COMMISSIONER HENDRIE: You are on the wrong one.

COMMISSIONER BRADFORD: Page 32. You and I are on the same one.

(Laughter.)

MR. GOLLER: I must say it was curious to me. I was wondering why the same change wasn't made there.

CHAIRMAN AHEARNE: Page 32?

COMMISSIONER BRADFORD: Page 32, (a), line three.

CHAIRMAN AHEARNE: All right, page 2. Peter, you had some changes to page 2.

COMMISSIONER BRADFORD: Just one.

CHAIRMAN AHEARNE: Could I ask the general counsel what is meant by a rebuttable presumption of adequacy?

MR. BICKWIT: It means that is the way the adjudicator is going to go unless somebody comes in and convinces him not to go that way. If FEMA finds that it is adequate, then the NRC will find that it is adequate unelss someone convinces them otherwise.

CHAIRMAN AHEARNE: Rather than starting on neutral ground that is assumed to be true unless proven otherwise, that issue?

MR. BICKWIT: That is right.

CHAIRMAN AHEARNE: Now, the other point, Peter that you have raised is that the issues may be raised in an NRC operating license hearing.

COMMISSIONER BRADFORD: Yes. That is not a new point. That concept is stated further on in the rule. I don't remember exactly where . That doesn't change anything but it does make it explicit.

CHAIRMAN AHEARNE: Standards, any comment?

MR. GOLLER: Well, again, I have to look back at the rule itself.

CHAIRMAN AHEARNE: Carl, let me ask this issue that is raised on page 2. Is your point that it is not in the rule?

MR. GOLLER: The words that are suggested in the rule are different from the words up front.

CHAIRMAN AHEARNE: On which page is that?

MR. GOLLER: On Commissioner Bradford's comment, page 31, which is

the only place these other words appear. We have got to look at that. Page 31.

COMMISSIONER BRADFORD: You are quite right. I guess I would use the language on 31 back there is there is a need to have it be identical. I don't think there is any operative difference.

MR. GOLLER: There is an additional thought in the old words on page 2 which say that these issue may be raised in an NRC operating license hearing.

COMMISSIONER BRADFORD: That thought is in here already. I will have to find it somewhere. I don't think anyone had that before. I certainly had not had the notion that a FEMA finding was not reviewable in an NRC proceeding. I will tell you one place that I derived that from is that

somewhere in the discussion of the rule it says that Congress is considering going further and making FEMA findings not reviewed.

MR. BICKWIT: It would be illegal if the FEMA findings were not reviewed.

CHAIRMANH AHEARNE: I had assumed that it was an issue that could be raised.

MR. GOLLER: Well, in the words that you suggested on page 31, in the rule itself you say are preferable. It seems to me that these words are most appropriate in the rule itself. I am not sure you need them in the supplemental information.

COMMISSIONER BRADFORD: I will tell you the reason I put them up there, and I agree that they have to be in the rule itself, is that when I read the

supplemental information it left me uncertain of what the status of a FEMA finding was in an NRC proceeding and with some question

NUCLEAR REGULATORY COMMISSION
Washington, DC 20555

July 24, 1980

MEMORANDUM FOR: William J. Dircks,
Acting EDO
Carlton Kammerer,
Director,
Congressional Affairs

FROM: Samuel J. Chilk,
Secrektary

SUBJECT: STAFF REQUIREMENTS -
DISCUSSION AND VOTE
ON EMERGENCY PLANNING
RULE (SEE
SECY-80-275, 275A, &
275B, 2:35 P.M.,
WEDNESDAY, JULY 23,
1980, COMMISSIONERS'
CONFERENCE ROOM (OPEN
TO PUBLIC ATTENDANCE)

1. The Commission, by a vote of 3-0*, approved, as revised, the attached draft Federal Register Notice for publication in the Federal Register to be effective 75 days after publication. (SD) (SECY Suspense: 8/7/80)

2. The Commission also requested that:

a. all applicants and licensees be notified of this action;

(SD) (SECY Suspense: 8/7/80)

b. a final finding of no significant impact will be published in the Federal Register prior to the effective date of this regulation:

(SD) (SECY Suspense: 10/21/80)

c. clearance of the record keeping and reporting requirements of the amendment by the Government Accounting Office be obtained.

(SD) (SECY Suspense: 9/22/80)

d. the appropriate Congressional committees be informed of this action.

(OCA/SD) (SECY Suspense: 8/7/80)

Subsequently, the Commission approved the insertion of additional language on page 3 of the Federal Register Notice (see attached OGC enclosure 3).

cc.

Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford
Commission Staff Offices

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*Commissioner Gilinsky was not present when the vote was taken.

[This document reflects the handwritten notes taken during the course of the Commission's rule making session on the emergency planning rule. The handwritten notes were then incorporated into the final version of the emergency planning rule.]

such actions as are appropriate to protect the food ingestion pathway.

2. A new section 50.47 is added.

§ 50.47 Emergency plans.

(a) No operating license for a nuclear power reactor will be issued unless a finding is made by NRC that the state of onsite and offsite emergency preparedness provides reasonable assurance that ~~appropriate~~[1/] adequate protective measures can and

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1/ The crossed out words are the original text of the emergency planning rule that were deleted by the Commission at rule making session of July 23, 1980. The underlined words reflect the handwritten entries that were added to the original text during rule making session.

will be taken in the event of radiological emergency. The NRC will base its finding on a review of the Federal Emergency Management Agency (FEMA) findings and determinations as to whether State and local emergency plans are adequate and capable of being implemented, and on the NRC assessment as to whether the applicant's onsite emergency plans are adequate and capable of being implemented. In any NRC licensing proceeding, a FEMA finding will constitute a rebuttable presumption on a question of adequacy.

(b) The onsite and offsite emergency response plans for nuclear power reactors must meet the following standards:[2]

---

[2] These standards are addressed by specific criteria in NUREG-0654; FEMA-REP-1 titled "Criteria for Preparation and Evaluation of

Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants for Interim Use and Comment," January 1980. [Was footnote in original document.])

1. Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response ogranization has staff to respond and to augment its initial response on a continuous basis.

2. On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely

augmentation of response capabilities is available, and the interfaces among various onsite response activities and offsite support and response activities are specified.

3. Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

4. A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call

for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

5. Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

6. Provisions exist for prompt communications among principal response ogranications to emergency personnel and

to the public.

7. Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.

8. Adequate emergency facilities and equipment to support the emergency responses are provided and maintained.

9. Adequate methods, systems, and equipment for assessing and monitoring

actual or potential offsite consequences of a radiological emergency condition are in use.

10. A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

11. Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent wiht EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

12. Arrangements are made for medical services for contaminated injured individuals.

13. General plans for recovery and reentry are developed.

14. Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

15. Radiological emergency response training is provided to those who may be called on to assist in an emergency.

16. Responsibilities for plan development and review and for distribution of emergency plans are

established, and planners are properly trained.

(c) Failure to meet the standards set forth in paragraph (b) of this subsection may result in the Commission declining to issue an Operating License; however, the applicant will have an opportunity to demonstrate to the satisfaction of the Commission that deficiencies in the plans are not significant for the plant in question, that ~~alternative~~ adequate in compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant operation.

Generally, the plume exposure pathway EPZ for nuclear power plants shall consist of an area about 10 miles

(16 Km) in radius and the ingestion pathway EPZ shall consist of an area about 50 miles (80 Km) in radius. The exact size and configuration of the EPZs surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as demography, topography, land characteristics, access routes, and jurisdictional boundaries. The size of the EPZs also may be determined on a case-by-case basis for gas-cooled nuclear reactors and

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Supreme Court, U.S.
FILED
MAY 24 1991
OFFICE OF THE CLERK

(5)

No. 90-1657

In the Supreme Court of the United States

OCTOBER TERM, 1990

COMMONWEALTH OF MASSACHUSETTS, SEACOAST ANTI-POLLUTION LEAGUE, NEW ENGLAND COALITION ON NUCLEAR POLLUTION, AND TOWN OF HAMPTON,
PETITIONERS,

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION, UNITED STATES OF AMERICA, AND PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE,
RESPONDENTS.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF IN OPPOSITION OF RESPONDENT, PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

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QUESTIONS PRESENTED

1. Did the United States Court of Appeals for the District of Columbia Circuit err in holding that the United States Nuclear Regulatory Commission (NRC) had not abused its discretion in permitting the Seabrook Nuclear Power Station (Seabrook) to operate at full power pending NRC's further review of licensing issues?

2. Did the United States Court of Appeals err in according deference to the NRC's interpretation of its own regulations in the circumstances of the case presented?

PARTIES TO THE PROCEEDINGS

In addition to the parties listed on Page 2 of the petition, Public Service Company of New Hampshire (PSCO)*, as lead owner of Seabrook** participated in the proceedings before the court below as an intervenor therein, and is a respondent in this Court pursuant to Rule 12.4. In addition, appearances were entered for various other cities or towns in The Commonwealth of Massachusetts, although these entities did not actually brief or argue the cause.

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* It is anticipated that PSCO, after certain regulatory approvals are obtained, will be merged into Northeast Utilities, a Connecticut-based utility holding company.

** Other owners of Seabrook include Canal Electric Company, a subsidiary of Commonwealth Energy Systems, Connecticut Light & Power Company, a subsidiary of Northeast Utilities, EUA Power Company and Montaup Electric Company, subsidiaries of Eastern Utility Associates, Hudson Light & Power Company, Massachusetts Municipal Wholesale Electrical Company, New England Power Company, a subsidiary of New England Electric System, New Hampshire Electric Cooperative, Inc., Taunton Municipal Light Plant, The United Illuminating Company and Vermont Electric and Generation Transmission Cooperative, Inc.

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In the
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COMMONWEALTH OF MASSACHUSETTS, SEACOAST ANTI-POLLUTION LEAGUE, NEW ENGLAND COALITION ON NUCLEAR POLLUTION, AND TOWN OF HAMPTON,
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RESPONDENTS.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF IN OPPOSITION OF RESPONDENT, PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

STATEMENT

1. *Background:* During the lengthy proceedings which ultimately led to the licensing for full power operation (pending further administrative review) of Seabrook Station

(Seabrook), a nuclear power facility[1] located in Seabrook, New Hampshire, the Petitioners herein sought admission into evidence of certain prefiled testimony. The testimony purported to analyze the amounts of radiation dose which would be received by individuals near Seabrook in the event of a catastrophic accident, even assuming that the emergency plans, which had been designed to mitigate such an event by the State of New Hampshire, were implemented. The cognizant trial tribunal, an Atomic Safety and Licensing Board (Licensing Board) of the United States Nuclear Regulatory Commission (NRC or Commission),[2] excluded the testimony on the basis of prior NRC authority to the effect that calculations of dose savings resulting from particular emergency protective actions at particular sites under particular accident scenarios were irrelevant to the issue of whether emergency plans required by NRC regulations, 10 C.F.R. § 50.47; 10 C.F.R. 50, App. E, were or were not adequate.[3] The correctness *vel non* of this evidentiary ruling was certified to the NRC for decision by the cognizant Atomic Safety and Licensing Appeal Board.[4] The decision excluding the testimony was upheld in a unanimous Commission decision, *Public Service Company of New Hampshire* (Seabrook Station Units 1 and 2), CLI-90-02, 31 N.R.C. 197 (1990).[5] The Commission ruled that ascertainment of the "dose savings" to be realized in par-

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[1] The initial application for a construction permit for Seabrook was filed in 1973. The full power license issued some seventeen years later in 1990.

[2] NRC had, as of the time the *Seabrook* proceeding was pending, perhaps the most elaborate adjudicatory apparatus of any agency of the United States. The "trial" proceedings are held before a Licensing Board; from this tribunal, an appeal was allowed as of right to the Atomic Safety and Licensing Appeal Board (Appeal Board); this, in turn, could be followed by discretionary review by the Commission itself. See 10 C.F.R. §§ 2.700 *et seq.*

[3] The Licensing Board's ruling was read orally from the bench. *See* the decision below, *Massachusetts* v. *N.R.C.*, 924 F.2d 311, 317 (D.C. Cir. 1991). The decision below is reproduced in Vol. I of the Appendix to the Petition for Certiorari herein (hereafter cited "App.") App. Vol. I at 16.

[4] See n. 2, *supra*.

[5] App. Vol. I at 130-201.

ticular circumstances are not the proper method by which to measure the adequacy of a radiological emergency plan; rather, the proper test was to measure the plan against planning standards set forth in the Commission's regulations, 10 C.F.R. § 50.47(b).[6] The Petitioner's sought review in the United States Court of Appeals for the District of Columbia Circuit of this decision, along with another Commission decision, issued of even date, which actually authorized full power operation, *Public Service Company of New Hampshire*, CLI-90-03 (Seabrook Station, Units 1 and 2), 31 N.R.C. 219 (1990).[7] In that Court, Petitioners argued that the exclusion of the testimony was a violation of NRC's own regulations, particularly 10 C.F.R. § 50.47(a)(1).[8]

2. *The Court of Appeals Opinion:* The Court of Appeals affirmed the action of NRC. In so doing it began with a jurisdictional discussion which illustrates the narrow reach of the decision. Therein, the Court of Appeals pointed out that the ultimate decison on review, *i.e.*, the license authorizing decision, CLI-90-03, was "an immediate effectiveness review", reviewable, under prior Court of Appeals precedent, only for an abuse of discretion.[9] The Court of Appeals went on to point out:

> "The only 'final agency action' at issue here is an order allowing the plant to operate at full power pending the Commission's further review of the licensing issues."[10]

In affirming the exclusion of the evidence, the Court of Appeals correctly applied a deferential standard of review to the NRC's interpretation of its own regulation.[11] It found that the test adopted by the Commission was permitted by the regulatory language,[12] and prohibited neither by any appli-

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[6] App. Vol. I at 183-98.
[7] App. Vol. II at 1-140.
[8] *Petition* at 3.
[9] App. Vol. I at 43-44.
[10] App. Vol. I at 46; 924 F.2d at 322.
[11] App. Vol. I at 53-57; 924 F.2d at 324.
[12] App. Vol. I at 57-63; 924 F.2d at 324-25.

cable statutory limitation[13] nor any proper interpretation of rulemaking history.[14] In particular, the Court noted that by neither interpretation, nor draftsmanship, had NRC ever indicated an intent that the regulation at issue would have the effect of being a "site blocker", noting that siting regulations were set out in an entirely separate part of NRC's regulations.[15] Finally, the Court of Appeals, as had the Commission before it,[16] noted that the Petitioners had not taken advantage of certain procedural steps which would have permitted submission of the testimony in the form of affidavits supporting a motion to waive the regulations on the basis that Seabrook presented special circumstances.[17]

REASONS FOR DENYING THE PETITION

The petition herein is long on history and short on reasons why the Court should grant the Petition. As a result it is difficult to ascertain precisely what arguments are being made to support the assertion that the case presents an important question of Federal Law which has not been, but should be, settled by this Court. In any event, the following reasons militate against the granting of the Petition.

1. The case does not present the question claimed by the Petitioners. Petitioners claim that the question presented is:

> "May the Nuclear Regulatory Commission ("NRC") issue a full power operating license for a nuclear power plant without deciding whether the applicable emergency plans will effectively protect the public in a radiological emergency."[18]

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[13] App. Vol. I at 63-74; 924 F.2d at 325-27.
[14] App. Vol. I at 74-80; 924 F.2d at 327-29.
[15] App. Vol. I at 71-73, 89; 924 F.2d at 327, 30.
[16] App. Vol. I at 200.
[17] App. Vol. I at 89-91; 924 F.2d at 330.
[18] *Petition* at (i).

But this is not what NRC did, even accepting Petitioners' own version of the proceedings below. The administrative decision as to which the Petitioners claim error, CLI-90-2, makes clear that the Commission was *not* making a decision as to adequacy but rather was setting forth how such a determination was to be made.[19] Subsequently, that determination was made by the Appeal Board on May 31, 1990. *Public Service Company of New Hampshire* (Seabrook Station, Units 1 and 2), ALAB-932, 31 NRC 371, 424 (1990) (Appendix to this Brief at A-78—A-80). Review was not sought before the NRC by the Petitioners of this decision which has become final agency action by operation of law. 10 C.F.R. § 2.786. Nor did Petitioners seek review of that decision in the Courts of Appeals. Thus, the decision giving rise to the issue stated by Petitioners here never was appealed by them. The issue actually presented by the case at bar is not one of whether NRC is assuring itself of emergency plan adequacy in licensing cases. Rather, the issue presented is whether Petitioners' methodology for determining adequacy should be followed as opposed to that selected by NRC. As the Court of Appeals correctly recognized, the methodology and procedures by which an expert agency possessing broad statutory discretion makes its necessary determinations, is quintessentially a matter commited to agency discretion at least absent a clearly and unequivocally stated statutory or regulatory provision to the contrary.[20]

2. From the face of the Petition it is also apparent that the issue sought to be raised, assuming it were raised, is not of any widespread importance. Petitioners claim, in essence, that, in

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[19] App. Vol. I at 200-201. And, of course, CLI-90-03, likewise did not determine final adequacy; only that for purposes of allowing operation during the pendency of intra-agency appeals, the Licensing Board decision seemed reasonable. *E.g.*, App. Vol. II at 1-2, 32-95.

[20] *Vermont Yankee Nuclear Power Corp.* v. *Natural Resources Defense Council, Inc.*, 435 U.S. 519, 543 (1978); *F.C.C.* v. *Schreiber*, 381 U.S. 279, 290 (1965).

licensing Seabrook, NRC changed the emergency planning rule by adjudicatory interpretation from that under which previous plant licensing proceedings had been conducted.[21] Prescinding from the accuracy of the characterization, it is clear that *Seabrook* is the last adjudicatory operating license proceeding in the NRC pipeline which raises substantial emergency planning issues. Thus, the issue has no practical importance with respect to future cases, and, if one accepts Petitioners' own assertions, all other operating plants were licensed under, and continue to operate under, a rule interpretation more to their liking. It is difficult to see how a petitioner could so define and argue an issue so as to make it less worthy of this Court's attention.

3. The Court of Appeals' deferential standard is in full accord with settled legal principles and prior decisions of this Court. Petitioners cite *Arizona Grocery Co.* v. *Atcheson Topeka & Santa Fe Ry.*, 284 U.S. 370 (1932) for the proposition that NRC could not, by adjudication, change an interpretation of its own regulations.[22] But *Arizona Grocery* simply held that the Interstate Commerce Commission, having declared a certain rate legal in a ratemaking proceeding, could not in a later adjudication simply declare it "illegal" and penalize a carrier as a result. Petitioners cite *Immigration and Naturalization Service* v. *Cardoza-Fonseca*, 480 U.S. 421, 446 n.30 (1987) and *Batterton* v. *Francis*, 432 U.S. 416, 425 n.9 (1977) as illustrating that the Court of Appeals gave undue deference to NRC's interpretation of its own regulation. However, both of these cases involved interpretations by adjudication (*Cardoza-Fonseca*) and rulemaking (*Batterton*) of a federal statute. What was not involved in either case, and was recognized explicitly in the *Batterton* footnote cited by Petitioners as owed great deference, was a legislative-type regulation within an agency's statutory expertise as is here involved.

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[21] See, *e.g.*, *Petition* at 25, 31, 33-34.

[22] *Petition* at 31-32. The Petitioners' quote from the case is also inaccurate. The word used by the Court was "retroactive" not "retrospective".

In short, the prior decisions of this Court cited by Petitioners are wholly inapposite. The Court of Appeals, in accord with numerous decisions of this Court, correctly deferred to the agency in this matter of the proper interpretation to be accorded the agency's own, clearly authorized, regulations.[23]

4. At Note 7 on Page 32 of the Petition, Petitioners seek to justify their failure to utilize available procedures suggested by the Commission and the Court of Appeals to obtain consideration of their evidence on the basis that they had no idea that the Commission would interpret its emergency planning rule so as not to require specific dose calculations and analyses. The plea of ignorance belies the facts. Nine years ago, one of these petitioners, Seacoast Anti-Pollution League, sought to force a hearing on whether Seabrook could comply with the then recently adopted, post-Three Mile Island, emergency planning regulations. In the decision denying SAPL the relief it sought, *Seacoast Anti-Pollution League* v. *NRC*, 690 F.2d 1025 (D.C. Cir. 1982), a case cited in the Petition itself, the Court of Appeals characterized one of SAPL's arguments thus:

> "SAPL also argues that regulations adopted by the Commission provide no standard by which to gauge the adequacy of emergency plans because they do not set out specific radiation dose limits and release times."

690 F.2d at 1029 n.14 (emphasis added). In short, Petitioner SAPL, at least, had been aware for years that "dose" evidence was irrelevant under the regulation.

5. In sum, the case at bar represents the unremarkable application of settled judicial principles to the discretionary ruling of an agency to permit a license to be effective pending

[23] *Gardebring* v. *Jenkins*, 485 U.S. 415, 430 (1988); *United States* v. *Larinoff*, 431 U.S. 864, 872-73 (1977); *Immigration and Naturalization Service* v. *Stanisic*, 395 U.S. 62, 72 (1969); *Udall* v. *Tallman*, 380 U.S. 1, 16-17 (1965); *Bowles* v. *Seminole Rock & Sand Co.*, 325 U.S. 410, 414 (1945).

intra-agency review of the adjudicatory proceedings leading up to its issuance. The agency decision that arguably might have presented the issue Petitioners want to raise was never appealed by Petitioners.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted,

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Dated: May 24, 1991

APPENDIX

Cite as 31 NRC 371 (1990) **ALAB-932**

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Administrative Judges:

G. Paul Bollwerk, III, Chairman
Alan S. Rosenthal
Howard A. Wilber

In the Matter of **Docket Nos. 50-443-OL**
50-444-OL
(Offsite Emergency Planning Issues)

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, *et al.*
(Seabrook Station, Units 1 and 2)

May 31, 1990

In reviewing LBP-88-32, 28 NRC 667 (1988), concerning the New Hampshire Radiological Emergency Response Plan (NHRERP) for the Seabrook Station, the Appeal Board affirms those portions of LBP-88-32, 28 NRC 667, regarding "Response Personnel Adequacy," "Human Behavior in Emergencies," and "Evacuation Time Estimates (ETEs)," and unpublished Licensing Board rulings on Seacoast Anti-Pollution League (SAPL) Contentions 4 and 5, except that the Appeal Board reverses and remands the Licensing Board's ruling on ETEs for further calculations relative to the "hidden vehicles" described in ¶9.120 of LBP-88-32. Thus, the Appeal Board

addresses the remainder of issues concerning the NEHRERP not covered by ALAB-924, 30 NRC 331 (1989), *petitions for review pending*. In addition, the Board further explains some matters in light of CLI-90-2, 31 NRC 197 (1990), *petition for review pending sub nom. Massachusetts* v. *NRC*, No. 90-1132 D.C. Cir. filed Mar. 7, 1990), the Commission's recent decision in which it discussed whether emergency planning requirements are "adequate protection" standards within the meaning of section 182 of the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2232).

EMERGENCY PLANNING: RESPONSE PERSONNEL

For purposes of judging the adequacy of state and local response personnel resources, individuals properly are considered to be "available" to provide services if they are within an organization or "pool" that is a candidate to perform a particular response function.

EMERGENCY PLANNING: RESPONSE PERSONNEL

The Licensing Board's conclusion that (1) "temporal availability" of response personnel (i.e., the ability to participate in response activities on a twenty-four hour basis, and (2) "volitional availability" of response personnel (i.e., the willingness to participate in response activities), is more properly addressed and evaluated as part of the "planning" and "implementation" process (including the full-scale emergency response exercise), rather than in assessing the adequacy of response personnel resources "pools," is a reasonable one that is not at odds with any existing regulatory requirement.

EMERGENCY PLANNING: RESPONSE PERSONNEL; REGULATORY GUIDANCE (NUREG-0654)

REGULATIONS: INTERPRETATION (10 C.F.R. § 50.47(b)(1))

The declaration in 10 C.F.R. § 50.47(b)(1) that each principal response organization must have "staff to respond and to

augment its initial response on a continuous basis" and the guidance in NUREG-0654 Criterion II.A.4 that "[e]ach principal organization shall be capable of continuous (24-hour) operations for a protracted period" do not require or suggest any particular time by which a response organization must be "fully staffed" or any particular method by which staffing adequacy must be demonstrated.

EMERGENCY PLANNING: PUBLIC NOTIFICATION; RESPONSE PERSONNEL

REGULATIONS: INTERPRETATION (10 C.F.R. Part 50, APP. E, § IV.D.3)

Section IV.D.3 of Appendix E to 10 C.F.R. Part 50, while mandating that the licensee must have the capability to notify state and local officials within fifteen minutes of declaring an emergency and that the capability must exist to notify the public of a situation requiring urgent action within fifteen minutes of notifying state and local officials, does not require any particular time for attaining full response organization staffing or any particular method by which staffing adequacy must be demonstrated.

EMERGENCY PLANNING: RESPONSE PERSONNEL

In the absence of any compelling showing that significant segments of those in the response personnel "pools" being relied upon as a principal planning basis to establish response personnel resources adequacy are for one reason or another likely to be "unavailable," there was no need for emergency planners to make a separate "availability" showing as part of the process undertaken to identify those "pools."

EVIDENCE: DUTY TO PROVIDE

A party that fails to put forth allegedly relevant information on direct examination is not entitled to have that information considered because it could have been elicited during cross-examination.

EMERGENCY PLANNING: FEMA FINDINGS (NEED FOR FINAL FINDINGS)

REGULATIONS: INTERPRETATION (10 C.F.R. § 50.47(a)(2))

"Section 50.47(a)(2) does not require deferment of any hearing on State and local government emergency response plans to await FEMA's issuance of final findings on those plans. Rather, what that [s]ection contemplates is a licensing decision based on the best available current information on emergency preparedness." *Cincinnati Gas & Electric Co.* (William H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 775 (1983) (citation and footnote omitted). *See also Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-776, 19 NRC 1373, 1379 (1984); *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-717, 17 NRC 346, 379-80 (1983).

EMERGENCY PLAN(S): CONTENT (SUFFICIENCY)

LICENSING BOARD(S): DISCRETION IN MANAGING PROCEEDINGS

It is for the Licensing Board to judge at exactly what stage an emergency plan is sufficiently developed to allow for hearings and a decision, taking into account the evidence on the current state of the plan. *Zimmer*, ALAB-727, 17 NRC at 775.

EVIDENCE: ADMISSIBILITY (SURREBUTTAL TESTIMONY)

LICENSING BOARD(S): DISCRETION IN MANAGING PROCEEDINGS (SURREBUTTAL TESTIMONY)

The admission of surrebuttal testimony is a matter within the discretion of a Licensing Board, particularly when the party sponsoring the testimony reasonably should have anticipated the attack upon its evidence. *See Cellular Mobile Systems* v. *FCC*, 782 F.2d 182, 201-02 (D.C. Cir. 1985).

RULES OF PRACTICE: APPELLATE REVIEW

APPEAL BOARD(S): SCOPE OF REVIEW

It is a "settled principle of appellate practice that an appellant is ordinarily precluded from pressing issues or advancing arguments not presented to the trial tribunal," except possibly in the case of "serious substantive issues." ALAB-924, 30 NRC at 358.

EVIDENCE: INFERENCES; QUANTUM OF PROOF

RULES OF PRACTICE: EXPERT WITNESS

In reviewing Licensing Board findings based on the testimony of applicants' expert witnesses, "[t]he possibility that inconsistent or even contrary inferences could be drawn if the views of [intervenors'] experts were accepted does not prevent the trial board's findings from being supported by substantial evidence." *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858, 866 (1975) (citations omitted).

APPEAL BOARD(S): STANDARD OF REVIEW

After giving the Licensing Board's factual findings the probative force they intrinsically command regarding aberrant behavior by the general public, the Appeal Board concludes there is no basis for reversing that finding.

RULES OF PRACTICE: IMMEDIATE EFFECTIVENESS REVIEW (EFFECT ON APPEAL BOARD DECISIONS)

A Commission observation in its immediate effectiveness review concerning the adjudicatory record is not binding upon the Appeal Board. *See* 10 C.F.R. § 2.764(g).

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES

EMERGENCY PLANS: CONTENT (PROTECTIVE MEASURES)

Planning officials are required to develop "[g]uidelines for the choice of protective actions during an emergency." 10 C.F.R. § 50.47(b)(10). To this end, planners also are to "provide an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ [(i.e., emergency planning zone)] for transient and permanent populations." *Id.* Part 50, App. E. § IV.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES; REGULATORY GUIDANCE (NUREG-0654)

An evacuation time estimate (ETE) should be prepared "based on a dynamic analysis (time-motion study under various conditions) for the [EPZ]." NUREG-0654 Criterion II.J. 10.*l*. *See also* Appendix A to NUREG-0654.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES

"[T]he [ETE] analysis is intended to reflect a realistic time for completing an evacuation." *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-845, 24 NRC 220, 244 (1986); *see also Limerick*, ALAB-836, 23 NRC 479, 486 (1986). With this information in hand, "emergency coordinators can then decide what protective actions (e.g., sheltering or evacuation) are warranted in the circumstances, if a radiological emergency occurs." *Limerick*, ALAB-845, 24 NRC at 244; *see also Limerick*, ALAB-836, 23 NRC at 486.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES

The ETE is only a planning tool; as such, Commission regulations establish no particular time limits for completing an EPZ evacuation. *See Limerick*, ALAB-845, 24 NRC at 244; *Limerick*, ALAB-836, 23 NRC at 486.

EMERGENCY PLANNING: REQUIREMENTS; RESPONSE PERSONNEL

There is no regulatory requirement that the State permanently assign existing police resources to a particular location to ensure that there are no staffing delays in the event of a radiological emergency. Simply because additional police resources will be needed in a particular location in the event of a radiological emergency and will require some period of time to arrive, this potential for delay does not require that permanent police staffing in that area be "beefed up" to a degree beyond what is otherwise required to provide adequate law enforcement protection under normal circumstances. *See Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 NRC 528, 536

(1983), *rev'd in part on other grounds*, *GUARD* v. *NRC*, 753 F.2d 1144 (D.C. Cir. 1985).

RULES OF PRACTICE: OFFICIAL NOTICE

The Appeal Board may take official notice of the State of New Hampshire Traffic Management Manual accompanying the New Hampshire Radiological Emergency Response Plan. *See* 10 C.F.R. § 2.743(i).

EMERGENCY PLANNING: REQUIREMENTS

If a particular accident sequence requires that protective action be taken when state and local emergency response efforts are not fully mobilized, response officials would have to weigh whatever increased risks may be attendant upon taking a particular protective action (such as an evacuation) without having the planned response personnel in place.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES; REGULATORY GUIDANCE (NUREG-0654)

In producing ETEs, planners should include "[e]stimates of transient populations . . . such as peak tourist volumes." NUREG-0654, App. 4, at 4-3.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES; REGULATORY GUIDANCE (NUREG-0654)

For the ocean beach area within the EPZ, NUREG-0654's guidance to calculate the ETEs on the basis of "peak tourist volumes" is well served by the use of the "reasonable expectable occupancy" method (i.e., a method that uses an estimate of parked vehicles, as well as vehicles in transit, on a peak representative day).

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES

When the vehicle count used in calculating the ETE for the beach population was based on an estimate of the actual number of vehicles on a representative peak day and when "convincing unrebutted testimony" had been presented that there were "hidden vehicles," i.e., vehicles not observable from aerial photographs (and such number of vehicles was set forth in the Licensing Board's findings), the Board erred in not requiring that those hidden vehicles be incorporated within the appropriate ETE calculations.

EMERGENCY PLANNING: EVACUATION TIME ESTIMATES; REGULATORY GUIDANCE (NUREG-0654)

EMERGENCY PLAN(S): STATE AND LOCAL GOVERNMENT RESPONSIBILITIES

REGULATIONS: INTERPRETATION (10 C.F.R. PART 50, APP. E)

While there may be an independent responsibility on the part of the State to incorporate revised ETEs into an emergency plan, *see* NUREG-0654 Criterion II.J.10.*l*-m, the applicant rather than the State is responsible for preparing an amended set of ETEs, *see* 10 C.F.R. Part 50, App. E, § IV; NUREG-0654 Criterion II.J.8.

RULES OF PRACTICE: APPEAL BOARD DECISIONS (EFFECT ON LICENSE AUTHORIZATON)

When full-power authorization has been made effective, in remanding matters, the Appeal Board must consider the impact of its action upon that authorization. *Limerick*, ALAB-845, 24 NRC at 234; *Limerick*, ALAB-836, 23 NRC at 250; *see* CLI-90-3, 31 NRC at 230.

RULES OF PRACTICE: APPEAL BOARD DECISIONS (EFFECT ON LICENSE AUTHORIZATION)

When additional calculations mandated by the Appeal Board to correct an ETE deficiency do not require significant time or resources to complete and are not likely to result in a profound change in the present ETEs, an existing licensing authorization need not be vitiated. *See* 10 C.F.R. § 50.47 (c)(1).

EMERGENCY PLANNING: MEDICAL SERVICES ARRANGEMENTS

REGULATIONS: INTERPRETATION (10 C.F.R. § 50.47(b)(12))

When, in conformance with a Commission policy statement, applicants (1) had provided a list of local medical facilities capable of administering care to contaminated individuals, and (2) had committed to comply fully with any additional Commission requirements that might be imposed in response to a judicial determination overturning the Commission's previous interpretation of the scope of necessary medical services arrangements under 10 C.F.R. § 50.47(b)(12), the Licensing Board properly rejected an intervenor's contention challenging applicants' compliance with the requirements of 10 C.F.R. § 50.47(b)(12).

RULES OF PRACTICE: MOTIONS FOR SUMMARY DISPOSITION

When a party fails to controvert material facts as established by another party in support of a motion for summary disposition, they are effectively admitted. *See* 10 C.F.R. § 2.749(a).

ATOMIC ENERGY ACT: INTERPRETATION

EMERGENCY PLANNING: BASIS FOR REQUIREMENT

Emergency planning is an "adequate protection" standard under section 182 of the Atomic Energy Act (AEA). CLI-90-2, 31 NRC at 210-13.

EMERGENCY PLANNING: BASIS FOR REQUIREMENT; REQUIREMENTS

To determine whether an emergency plan provides "adequate protection," the plan must be assessed in terms of whether it meets the sixteen planning standards of 10 C.F.R. § 50.47(b). CLI-90-2, 31 NRC at 213, 217.

APPEARANCES

John Traficonte, Boston, Massachusetts (with whom **Allan Fierce**, Boston, Massachusetts, was on the brief), for the intervenor James M. Shannon, Attorney General of Massachusetts.

Diane Curran, Washington, D.C., for the intervenor New England Coalition on Nuclear Pollution.

Robert A. Backus, Manchester, New Hampshire, for the intervenor Seacoast Anti-Pollution League.

Paul McEachern, Portsmouth, New Hampshire (with whom **Matthew T. Brock**, Portsmouth, New Hampshire, was on the brief), for the intervenor Town of Hampton.

Thomas G. Dignan, Jr., Boston, Massachusetts (with whom **George H. Lewald, Kathryn A. Selleck, Jeffrey P. Trout, Jay Bradford Smith**, and **Geoffrey C. Cook**, Boston,

Massachusetts, were on the brief), for the applicants Public Service Company of New Hampshire, *et al.*

Sherwin E. Turk for the Nuclear Regulatory Commission staff.

DECISION

In ALAB-924,[1] we addressed a number of issues raised by intervenors Attorney General of Massachusetts (MassAG), the New England Coalition on Nuclear Pollution (NECNP), the Seacoast Anti-Pollution League (SAPL), and the Town of Hampton (TOH) in their appeal from the Licensing Board's December 30, 1988 partial initial decision on emergency planning for the New Hampshire portion of the plume exposure pathway Emergency Planning Zone (EPZ) for the Seabrook Station.[2] In this decision, we address the balance of those matters raised by intervenors' appeals regarding the New Hampshire Radiological Emergency Response Plan (NHRERP).[3] Specifically, we confront those issues advanced concerning the portions of the Licensing Board's decision entitled "Response Personnel Adequacy," "Human Behavior in Emergencies," and "Evacuation Time Estimates (ETEs)." In addition, we address a number of other issues raised by intervenors and include a further explanation regarding several matters in light of CLI-90-2,[4] the Commission's recent decision in which it discussed whether emergency planning requirements are "adequate protection" standards within the meaning of section 182 of the Atomic Energy Act of 1954, as amended (AEA).[5]

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[1] 30 NRC 331 (1989), *petitions for review pending*.

[2] LBP-32, 28 NRC 667 (1988).

[3] Unless otherwise indicated, all citations in this decision to the NHRERP are to Revision 2 issued in August 1986.

[4] 31 NRC 197 (1990), *petition for review pending sub nom. Massachusetts v. NRC*, No. 90-1132 (D.C. Cir. filed Mar. 7, 1990).

[5] 42 U.S.C. § 2232.

I. RESPONSE PERSONNEL ADEQUACY

Intervenors asserted before the Licensing Board that, in contravention of a number of regulatory standards including 10 C.F.R. § 50.47(b)(1) and Criterion II.A of NUREG-0654/FEMA-REP-1 (NUREG-0654),[6] the NHRERP planning process had failed to provide for adequate personnel resources from the State of New Hampshire and local governments to respond in the event of an emergency.[7] The Licensing Board found these charges to be without merit.[8] Before us, intervenors NECNP and SAPL have raised a variety of concerns relative to the Board's determination, including challenges to its findings on the adequacy of the survey process utilized to identify the response personnel resources, the need for findings by the Federal Emergency Management Agency (FEMA) on personnel resource adequacy prior to any Board hearing and decision on the subject, and the need for additional response personnel resources to relieve local workers who will require replacement under the plan's radiation exposure limitations.[9] Applicants and the staff urge that the Licensing Board's findings be affirmed on all counts.[10] In each instance, we find intervenors' complaints unpersuasive.

In response to FEMA concerns about whether there were sufficient State and local personnel resources for implementing the NHRERP and with the aid of State emergency planning officials, applicants' planning personnel conducted a survey

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[6] NUREG-0654/FEMA-REP-1 (Rev. 1), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Nov. 1980).

[7] *See* LBP-88-32, 28 NRC at 678.

[8] *Id.* at 691.

[9] New England Coalition on Nuclear Pollution's Brief in Support of Intervenors' Appeal (Mar. 24, 1989) at 15-26 [hereinafter NECNP Brief]; Seacoast Anti-Pollution League's Brief on Appeal (Mar. 21, 1989) at 28-34 [hereinafter SAPL Brief].

[10] Brief of Applicants-Appellees (Apr. 24, 1989) at 34-38 [hereinafter Applicants Brief], NRC Staff's Brief in Response to Intervenor Appeals (June 5, 1989) at 10-20 [hereinafter NRC Staff Brief].

intended to demonstrate staffing capability.[11] This survey process — the results of which ultimately were recorded in a document entitled the "Summary of Personnel Resource Assessment for the [NHRERP]" (SPRA) — was intended to provide an evaluation of personnel resources required to fulfill both the State and local emergency response duties.[12] Included is a resource appraisal for the six (out of seventeen) communities in the New Hampshire EPZ — Hampton, South Hampton, Hampton Falls, Kensington, Rye, and North Hampton — that declined to participate in emergency planning efforts.[13]

As part of that process, the planners' initial efforts were directed to identifying, by position and functional responsibility, all tasks that are required to be performed in fulfilling State or local emergency response functions.[14] Included were those duties for which two twelve-hour shifts are necessary to provide the twenty-four hour operational capability in accordance with planning guidance.[15] This "walk-through," as it was termed by the parties, was accomplished by having emergency planners review the provisions of the NHRERP for all State agencies and local governments with respect to each emergency response function to ensure that all assigned primary and secondary responsibilities were addressed.[16] Thereafter, the planners sought to identify every task required to carry out these responsibilities by agency, position, and function.[17]

Using the walk-through information, the planners then endeavored to identify "available" personnel resources to fill the necessary emergency response positions.[18] For municipal positions within the eleven communities participating in emer-

[11] Tr. 3191-92.

[12] *See* Applicants' Direct Testimony No. 3 (Personnel Resources), fol. Tr. 3228, at 3-10. *See also* Applicants' Exhs. 1 & 1-A (Summary of Personnel Resource Assessment for the [NHRERP]).

[13] Applicants' Exh. 1, at 2-4 to -33.

[14] Applicants' Direct Testimony No. 3, at 3, 9.

[15] *Id.* at 3-4, 9; Tr. 3290-93. *See generally* ALAB-924, 30 NRC at 362 n.125.

[16] Applicants' Direct Testimony No. 3, at 3, 9.

[17] *Ibid.*

[18] *Id.* at 4, 9.

gency planning, this was done by analyzing background data sources (including town plan appendices, town annual reports, and records of the New Hampshire State Police and Fire Standards and Training Commissions, the Bureau of Emergency Medical Service, and the New Hampshire Fireman's Association) and by conducting survey interviews with various local municipal personnel (including town selectmen, town managers, civil defense directors, police and fire chiefs, and health officials).[19] For the six communities that decided not to participate, the background data sources were utilized (generally without conducting a survey interview with local officials) to construct an organization chart illustrating how municipal personnel might be assigned to response positions.[20] In addition, key emergency planning responsibilities in these nonparticipating communities were catalogued, and State personnel who would fulfill those responsibilities in the event there was no local participation were identified.[21] For those positions within State agencies, personnel identification assessment efforts consisted primarily of interviews with principal emergency response personnel in each State agency with assigned responsibilities under the NHRERP, supplemented by a review of agency resource appendices in volumes 4, 4A, and 4B of the NHRERP and currently available State directories and other public records.[22]

A. Relying principally upon the direct and rebuttal testimony of professional personnel resource planner Clifford J. Earl,[23] intervenors NECNP and SAPL renew before us their assertions, which the Licensing Board rejected, that various critical deficiencies existed in the survey process. According to

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[19] *Id.* at 4.

[20] *Id.* at 5.

[21] Applicants' Exh. 1, at 3-3, 3-5 to -6.

[22] Applicants' Direct Testimony No. 3, at 9-10.

[23] Testimony of Clifford J. Earl Regarding Contentions NHLP-2, SAPL-8, SAPL-8A, and [TOH] Revised Contentions IV and VI, fol Tr. 3776, Rebuttal Testimony of Clifford J. Earl Regarding Contentions NHLP-2, SAPL-8, SAPL-8A, and [TOH] Revised Contentions IV and VI, fol. Tr. 8915 [hereinafter Earl Rebuttal Testimony].

intervenors, these include failure (1) to provide a definition of the term "available," and (2) to organize and supervise the survey process properly, which in turn resulted in other deficiencies in the survey. In addition, intervenor SAPL argues that the survey is insufficient to address the adequacy of response personnel resources in communities that have declined to participate in emergency planning.

1. Intervenors allege that a central shortcoming in the survey process is the failure to define, or the incorrect definition of, which State and local personnel are "available" to participate in emergency planning matters. In testimony before the Licensing Board, planning personnel declared that, for purposes of the survey and emergency response planning, individuals were considered to be "available" to provide services if they were within an organization or "pool" that was a candidate to perform a particular function.[24] For example, if a function was to be undertaken by fire department employees in a particular community, then the entire fire department staff generally was considered to be available as response personnel.[25] Intervenors, on the other hand, assert that availability of response personnel for planning purposes should be defined to include two components: (1) "temporal" availability, based upon each individual's ability to participate on a twenty-four hour basis, taking into account such factors as transportation resources, other responsibilities during off-duty hours, and the time required to get from home or work to an assigned emergency response post, and (2) "volitional" availability, based upon each individual's willingness to participate.[26] In its decision, the Licensing Board endorsed the "pool" concept utilized by planning officials in preparing the survey, stating that

[24] Tr. 3254, 3314, 3317, 3323, 3332.

[25] Tr. 3316. Planning officials indicated that, as part of the survey process, they did attempt to identify those individuals whose other job responsibilities might result in double-counting, such as a full-time fireman in one community who also serves as a volunteer fireman in another community. Tr. 3316-17.

[26] *See* NECNP Brief at 18; SAPL Brief at 29.

"[t]he issue of whether and when people will be there is an issue of planning and implementation, not personnel resources."[27] We find no error in the Board's conclusion in this regard.

With respect to the issue of temporal availability, as the Licensing Board noted, it is clear that no emergency respondent will be available at all times.[28] Health problems, business or pleasure travel outside the Seabrook area, and a variety of other factors could make an individual unavailable for a portion or all of the time of an emergency response. This, however, does not invalidate the "pool" concept upon which the SPRA is based. Rather, in viewing the matter as one of "planning and implementation," it is apparent that various measures are incorporated into the NHRERP planning scheme — e.g., cross-training of individuals within some personnel resource pools,[29] overstaffing for various emergency response functions,[30] and early mobilization of certain personnel[31] — that help ensure that the absence or delayed availability of particular individuals will not significantly impair emergency planning efforts.[32] Moreover, as FEMA witnesses observed before the Licensing Board, a judgment about the effect of

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[27] LBP-88-32, 28 NRC at 681-82.

[28] *Id.* at 682.

[29] Tr. 3325-27. For instance, in many local fire departments (which generally provide between one-third and three-quarters of the personnel for the response personnel pool for participating municipalities, *see, e.g.*, Applicants' Exh. 1, at 2-58, 2-70, 2-74), individuals within that organization are being cross-trained so that they can be assigned a variety of tasks as they report for duty during an emergency. *See* Tr. 3326-27.

[30] Applicants' Exh. 1, at 3-7.

[31] *See* Tr. 3492 (State incident field office staffed at Alert stage); Tr. 4099-100 (State police traffic control staffing at Alert stage).

[32] On the matter of temporal availability, intervenors NECNP and SAPL also raise concerns about the ability of response organizations (i.e., the New Hampshire State Police and the National Guard) to have personnel in place to provide an "immediate" response to a fast-breaking accident sequence. NECNP Brief at 8, 18 n.6; SAPL Brief at 31-32. As we discuss more fully in responding to a similar challenge to "availability" in relation to time estimates for evacuation, these concerns have been considered and adequately addressed in the planning basis for the NHRERP. *See infra* pp. 412-13.

"temporal" availability upon emergency response generally would be made in reviewing plan implementation, i.e., in the context of a full-scale exercise during which state and local personnel must be mobilized to a degree sufficient to verify response capability.[33]

Similarly, for the matter of "volitional" availability, FEMA witnesses stated that it would not be that agency's normal practice to have state emergency planning officials inquire as to who within the various state and local response personnel "pools" is "willing" to participate in emergency planning.[34] Rather, the agency would expect state planners generally would address this issue of "availability" through a gradual process of staff identification, including monitoring of participation in training sessions and drills, with the ultimate FEMA evaluation on the matter being made "during the course of an exercise in terms of people turning out."[35]

The Licensing Board's (and FEMA's) conclusion that any determination about the temporal and volitional "availability" of response personnel is more properly addressed and evaluated as part of the "planning" and "implementation" process, including the full-scale exercise, is a reasonable one that is not at odds with any existing regulatory requirements.[36] Conse-

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[33] Tr. 4072, *see* NUREG-0654 Criterion II.N.1.b.

[34] Tr. 4087-88.

[35] Tr. 4074; *see* Tr. 4055, 4088, 4096-97.

[36] Citing 10 C.F.R. § 50.47(b)(1), *id.* Part 50, App. E, § IV.D.3, and Criterion II.A.4 of NUREG-0654, intervenors assert that a general showing of "availability," as they define it, is mandated by regulations and planning guidance. NECNP Brief at 15-18; SAPL Brief at 32-33. We find no basis in these provisions for such a requirement.

The declaration in section 50.47(b)(1) that each principal response organization must have "staff to respond and to augment its initial response on a continuous basis" and the guidance in NUREG-0654 Criterion II.A.4 that "[e]ach principal organization shall be capable of continuous (24-hour) operations for a protracted period" do not require or suggest any particular time by which a response organization must be "fully staffed" or any particular method by which staffing adequacy must be demonstrated. Similarly, section IV.D.3 of Appendix E to 10 C.F.R. Part 50, while mandating that the licensee must have the capability to notify state and local officials within 15 minutes of declaring an emergency and that the capability must exist to

quently, in the absence of any compelling showing by intervenors that significant segments of those in the response personnel "pools" being relied upon as a principal planning basis to establish personnel resources adequacy are for one reason or another likely to be "unavailable," which has not been made in this instance,[37] we find no need for NHRERP planners to

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notify the public of a situation requiring urgent action within 15 minutes of notifying state and local officials, does not require any particular time for full staffing or any particular method by which staffing adequacy must be demonstrated. Indeed, this requirement may well provide for a public notification capability that will in some instances exceed the ability of all response personnel to be in place. If public notification and activation of an emergency response will precede complete mobilization, however, that could be a factor to be weighed in determining what response action is appropriate. *See infra* pp. 412-13.

[37] Intervenor SAPL does attempt to make a showing in this regard based upon two instances in which State officials conducted surveys intended to provide information on the availability of personnel from the State Department of Health and Human Services (HHS) to respond to emergency situations, including an accident at Seabrook. SAPL Brief at 34, 45-46. Whether considered separately or together, however, these situations fail to provide a basis for drawing a negative inference about *all* response personnel sufficient to mandate additional inquiry into the issue of "availability," as intervenors desire.

SAPL first points to a questionnaire circulated to employees of the HHS Division of Public Health Services (PHS) to gauge whether enough PHS employees would be available to perform Seabrook-related emergency response duties in the State emergency operations center, the State information field office, and in evacuee reception centers. Some employees did respond to the survey by indicating they declined to participate in emergency response activities; nonetheless, enough workers stated they would participate to fulfill the division's staffing responsibilities. *See* Tr. 3410-11. This example thus provides no support for intervenor's position.

Likewise unavailing is SAPL's reliance on the results of an additional survey of employees in the district offices of several HHS divisions other than PHS. This survey was intended to identify the reasons why more of the approximately 645 employees in the district offices were not volunteering to participate in the Emergency Service Units (ESUs) that provide State response support in emergency situations generally, including manning evacuation reception centers for Seabrook. Tr. 4780-81, 4797. Survey results indicated that approximately 43% of those responding were not willing to provide emergency assistance as part of an ESU, with approximately 28% of that group giving the reason for their nonparticipation as possible involvement in Seabrook emergency response activities. Tr. 4784-85; *see* SAPL

have made a separate "availability" showing as part of the process undertaken to identify those "pools."[38]

2. In addition to rejecting intervenors' arguments about "availability," as part of the survey process, the Licensing Board's finding regarding response personnel resources reflects a judgment that, notwithstanding intervenors' challenges, the survey was otherwise adequate to identify the personnel resources (i.e., the "pools") needed to carry out emergency planning functions. Before us, intervenors again press their position that this is not, in fact, the case.

Principally on the basis of Mr. Earl's testimony, intervenors assert that the survey's methodology generally was inadequate, focusing particularly on what they counted was defi-

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Exhs. 3-5. Putting aside the fact that the Licensing Board determined, and we have agreed, that SAPL's particular concern regarding a shortfall of HHS volunteers as it impacts on the adequacy of reception center operations is effectively addressed by maintaining rosters of available individuals, LBP-88-32, 28 NRC at 719-20, *aff'd*, ALAB-924, 30 NRC at 361 n.121, and the fact that the 43% nonparticipation figure was never statistically validated, when this figure is applied to the entire complement of approximately 980 HHS workers from the district *and* headquarters offices of the divisions involved, all but a few of which could be called upon in a Seabrook emergency response, Tr. 4802-04, there still would be in excess of 500 employees that could be expected to participate. This is more than sufficient to meet the ESU planning basis requirement of 430 responding employees. *See* Applicants' Exh. 1-A.

[38] It may well be that in specific instances, the response role played by a particular individual or group will give additional import to concerns about planning for the "availability" of those who will fill those roles. *See Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit No. 1), CLI-83-22, 18 NRC 299, 302, 307-08 (1983) (despite proposed compensatory measures, licensee proposal not to have fully activated Emergency Operations Facility (EOF) within one hour of site emergency determination due to four-hour travel time necessary for Emergency Support Director to arrive at EOF does not provide same degree of public health and safety protection). *See also* NUREG-0654 Criterion II.I.8 (appropriate response organizations shall provide for "rapid" assessments of offsite radiological hazards resulting from accident, including equipment and estimated manpower deployment times). Intervenors, however, have not raised such particularized concerns in challenging response personnel resource adequacy under the NHRERP.

cient supervision and coordination.[39] As the Licensing Board noted, however, the evidentiary hearing record supports the conclusion that the survey process was properly designed and supervised and that it provided accurate data.[40] In contrast, despite obtaining extensive discovery relating to the survey and an opportunity to present witnesses, intervenors' evidence (in the form of Mr. Earl's testimony) was wholly lacking in any

[39] Relying on the previously mentioned testimony of Mr. Earl, intervenors also contend that the survey was inadequate because there was a failure to calculate properly the workload for the response positions. A central reason given is the failure to weigh "timing" considerations in setting workloads.

In a variation on their arguments about the importance of "temporal" availability, referring particularly to the arrival of traffic control personnel at their posts during an evacuation, intervenors suggest that the survey was inadequate because, in determining how many people were needed to do a task, one must take into account when particular individuals will arrive to perform those duties. *See* NECNP Brief at 7-8, 19-20; SAPL Brief at 29, 31-32. For the reasons stated in our discussion concerning "availability" as a factor in time estimates for evacuations, *see infra* pp. 412-13, we find these assertions unpersuasive in this context as well.

In addition, declaring that the applicants' testimony concerning the walk-through process indicated only that it involved a "reading of the procedure," NECNP maintains that this would not reveal enough information about the procedure and the time necessary to carry out the procedure, thereby adding to the uncertainty over how many people were required to perform that task. NECNP Brief at 7, 20 n.8. As the Licensing Board noted, however, applicants' witness Anthony Callendrello testified that there was in fact more, including "'a reading of the procedure, an analysis of each step, and a determination against objective criteria as to whether there was one person, more than one people *[sic]*, whatever the number needed to perform this step.'" LBP-88-32, 28 NRC at 683 (quoting Tr. 3278). More to the point, and contrary to intervenor's assumption, in conducting the walk-through, planners need not undertake a "mini" emergency drill for each response procedure. The fact that emergency planning professionals making the analysis may have made certain assumptions about response actions (such as how long telephone calling procedures would take), rather than actually conducting and timing each of the activities, does not present any basis for declaring their analysis inadequate. This is particularly so in the face of intervenors' failure to present any convincing evidence that any specific assumptions were substantially flawed. Moreover, as with "availability" issues, it seems apparent that a full-scale emergency exercise generally will verify (or show the inadequacy of) many of the assumptions that have been made.

[40] LBP-88-32, 28 NRC at 684.

convincing evidence of actual deficiencies arising from the process.

This lack of any specific, meaningful evidence of deficiencies is epitomized by the example from Mr. Earl's testimony, highlighted by intervenor NECNP in its brief,[41] that apparently was posited to establish that emergency planners were not provided with proper criteria for defining the type of information they were to obtain. Mr. Earl refers to Question 2 on the survey form used for interviewing local officials to determine local personnel needs, which directs the interviewer to:

> Ensure there are primaries and alternates for each [Emergency Operations Center] position designated in the plan as 24 hour staffing. Attach a list/roster identifying positions which require primary and alternate staffing. (Interviewer to obtain 24 hour staffing information. Refer to Section III, Selectman's Emergency Preparedness Responsibilities and Appendix A.)[42]

According to Mr. Earl, this instruction was deficient because it failed to indicate how the intervenor should obtain twenty-four hour staffing information, how he or she should determine the staffing needs for each position, or what it means to "ensure" the existence of primaries and alternates for each position.[43]

Review of the referenced section of the NHRERP for each particular locality makes it apparent exactly what is expected. The "selectman's" portion of section III, found in subpart B, includes a listing of the positions for which there is to be a "primary and alternate," and Appendix A gives a call list of the individuals who are to fill these positions.[44] To follow this instruction, therefore, the interviewer merely had to ensure that in Appendix A there is an individual listed as a primary or

[41] NECNP Brief at 11.

[42] Earl Rebuttal Testimony at 22-23.

[43] *Ibid.*

[44] *E.g.*, NHRERP (Town of Seabrook), Vol. 16, at III-2, A-1.

alternate for each designated position in subpart B and then prepare a roster from this information. Moreover, once the results from this and other survey questions were assembled, they were reviewed for consistency and accuracy before being utilized in the SPRA.[45] In this case, the survey process resulted in a table for each municipality designating the twenty-four hour staffing positions,[46] the accuracy of which have not been specifically challenged before us. Accordingly, we fail to see how Mr. Earl's concern is illustrative of any deficiency in the survey process.[47]

As the Licensing Board observed, Mr. Earl's testimony is more a statement of how the survey might have been done differently (and, in Mr. Earl's opinion, better) than an attempt to address the more pertinent issue of how the process that was used resulted in data that are insufficient or inaccurate.[48] The Board properly concluded that the testimony of Mr. Earl was

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[45] *See* Tr. 3240-43, 3246-48, 3290-93.

[46] *E.g.*, Applicants' Exh. 1, at 2-73 (Figure 2.3-10, Seabrook Emergency Response Organization).

[47] Also unpersuasive in this regard is SAPL's assertion, based upon the testimony of William Renz, applicants' consultant who had responsibility for preparation of the assessment summary, that the survey process was deficient because of a purported failure of management personnel to interview systematically those individuals who collected the data and to establish common terminology for use by survey officials as they conducted their interviews with local officials to get input on community response personnel. SAPL Brief at 30. Like the Licensing Board, *see* LBP-88-32, 28 NRC at 684, we find such complaints unavailing in light of the overall record support for the efficacy of the survey process and intervenor's failure to present any firm evidence establishing how these alleged operational deficiencies produced incomplete or incorrect results.

We also do not agree with SAPL's complaint that the survey process was deficient because, in assigning a response task, no consideration was given to a person's competence to do that task. SAPL Brief at 30. As senior planning personnel testified, in certain instances when it was necessary because of the response duties involved, individual assignments were made on the basis of the person's present duties and responsibilities; in other instances, individuals within a particular personnel pool would be cross-trained to fulfill any of a number of duties that were assigned to the pool. *See* Tr. 3325-27.

[48] LBP-88-32, 28 NRC at 684.

inadequate to establish material failings in the survey process.[49]

3. The other major intervenor challenge to the survey's validity is based upon the testimony of police and other local officials from several of the nonparticipating communities.[50] The officials testified that the planning basis for these local communities, devised without their cooperation or input, failed to reflect adequate personnel resources. SAPL asserts that the Licensing Board erred in failing to credit properly the

[49] Intervenor NECNP also takes umbrage at the Licensing Board's refusal to credit Mr. Earl's testimony on personnel resource planning based, in part, on the ground that his expertise and experience were not in the field of emergency planning. NECNP Brief at 21-22. Mr. Earl's failure to back up his discourse on the weaknesses of the survey with any specific evidence of inaccuracies resulting from the process is, to our mind, more crippling to intervenor's position than his lack of specific emergency planning experience. Nonetheless, it is apparent that, especially when compared to planners Anthony Callendrello, Paul Frechette, and William Renz, who had principal responsibility for the resource assessment program, including the survey process, Tr. 3198, 3203-04, 3238, Mr. Earl is lacking in that respect. *Compare* Qualifications of Anthony M. Callendrello, fol. Tr. 2790; Qualifications of Paul R. Frechette, Jr., fol. Tr. 2791; Resume of William F. Renz, fol. Tr. 3185 *with* Resume of Clifford J. Earl, fol. Tr. 3776.

Although NECNP's attempts on appeal to bolster Mr. Earl's expertise by now arguing that he had crisis management experience that would have been revealed if he had been cross-examined, NECNP Brief at 21 n.9, we find this assertion frivolous. We are not aware of any civil law principle that permits a party, having failed to put forth allegedly relevant information on direct examination, to claim that information nonetheless should be considered because the information was not elicited during cross-examination.

Finally, we reject SAPL's assertion that purported deficiencies relating to letters of agreement also strengthen Mr. Earl's testimony. SAPL Brief at 29. In ALAB-924, 30 NRC at 345, we found those allegations were without substance.

[50] Corrected Prefiled Testimony of Dona Janetos on Behalf of [TOH] Regarding TOH Revised Contentions III, IV, VI, fol. Tr. 3597 [hereinafter Janetos Testimony]. Corrected Prefiled Testimony of Sergeant Victor DeMarco and Detective William Lally on Behalf of [TOH] Regarding TOH Revised Contentions III, IV, VI, fol. Tr. 3659 [hereinafter DeMarco and Lally Testimony]; [SAPL]'s Testimony of Suzanne Breiseth on SAPL Contentions 8 and 8A Relative to the Town of Hampton Falls, fol. Tr. 3739, [SAPL]'s Testimony of Andrew Christie, Jr. on SAPL Contentions 8, 8A, 16, 31 and 37 Relative to the Town of Hampton Falls, fol. Tr. 3740; Prefiled

testimony of these local officials.[51] We find these arguments without merit as well.[52]

On the matter of adequate resources for local emergency response organizations in nonparticipating communities, the issues upon which intervenor would have us focus are, in light of the record here, of no relevance to the adequacy of emergency planning. While these witnesses sought to call into question some of the determinations made by planners in establishing the numbers and assignments for local response personnel in those municipalities, intervenors failed to present any evidence effectively countering applicants' showing, embodied in the SPRA,[53] that there are adequate State personnel available to fulfill the key emergency response duties within the nonparticipating communities.[54] Thus, intervenor's complaints fail to negate the Licensing Board's finding that there will be ade-

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Testimony of Walter F. Shivak on [SAPL]'s Contentions 8 and 8A and Town of South Hampton Contentions 2, 3 and 8 Relative to the Town of South Hampton, fol. Tr. 3780; Direct Testimony of Sandra Fowler Mitchell on SAPL Contentions 8 and 8A and Town of Kensington Contention 1 Relative to the Town of Kensington, fol. Tr. 3805 [hereinafter Mitchell Testimony]; Amended [SAPL] Testimony of David P. McDonald on SAPL Contentions 8 and 8A Relative to the Town of Rye, fol. Tr. 3867; Testimony of Richard W. Ingram on SAPL Contentions 8 and 8A Relative to the Town of North Hampton, fol. Tr. 4479.

[51] SAPL Brief at 31.

[52] In line with intervenors' general concern about "availability" of response personnel, several of these officials also suggested that it would take too long for State resources, particularly State police, to respond to make up for inadequacies resulting from local nonparticipation. *See id.* at 31-32. Our response to a similar concern with respect to estimates of evacuation times addresses this matter as well. *See infra* pp. 412-13.

Local officials also testified that resource deficiencies would result because some local emergency response personnel would not respond. *See* SAPL Brief at 58. We deal with the issue of emergency worker response *infra* under the heading of "Human Behavior in Emergencies."

[53] *See* Applicants' Exh. 1, § 3.

[54] By way of example, we note the testimony of one local witness whose assertion that there would be personnel deficiencies in an emergency was apparently based upon a misapprehension of the number of personnel required for 24-hour manning. *Compare* Mitchell Testimony at 2 *with* Applicants' Exh. 1, at 2-7 to -8.

quate personnel to respond in the nonparticipating communities.[55]

B.1. Finally on the issue of response personnel adequacy, intervenors make two arguments that can be dealt with in short order. First, intervenor NECNP asserts that the Licensing Board violated the precepts of 10 C.F.R. § 50.47(a)(2) by holding hearings and rendering a judgment concerning the adequacy of response personnel resources under the NHRERP prior to submission of planning information sufficient to allow FEMA to make findings concerning that issue. Specifically, NECNP contends that any Board consideration of the matter of response personnel resources adequacy had to await FEMA review of several items, including the SPRA and FEMA's "primary tool for evaluating the adequacy of personnel resources," the full-scale exercise.[56]

Previously, in response to a similar assertion in the *Zimmer* proceeding, we observed that "[s]ection 50.47(a)(2) does not require deferment of any hearing on State and local government emergency response plans to await FEMA's issuance of final findings on those plans. Rather, what that [s]ection contemplates is a licensing decision based on the best available

[55] In this regard, we agree with the Licensing Board that the complaints lodged by local officials about the SPRA's provisions for local personnel response seem largely to arise from matters directly attributable to their own nonparticipation, rather than to fundamental deficiencies in the survey process. *See* LBP-88-32, 28 NRC at 687-88. For instance, the potency of one town official's complaint that the duties assigned to particular response positions were too burdensome is substantially diminished by the apparent lack of effort on her part to bring the matter to the attention of State officials so the alleged deficiencies could be corrected. *Compare* Janetos Testimony at 4-5 *with* Tr. 3342-47. The same is true for the complaints of several local police officers about the use of local part-time special officers based on their belief that these special officers did not have the proper skills. *See* DeMarco and Lally Testimony at 12-13. As FEMA witnesses stated, with proper training these individuals could perform the assigned responsibilities, FEMA Prefiled Testimony, fol. Tr. 4051, at 45, making this a matter that undoubtedly could be rectified readily if the community were to participate in emergency planning efforts after all.

[56] NECNP Brief at 22-24.

current information on emergency preparedness."[57] In *Zimmer*, we also noted that it is for the Licensing Board to judge at exactly what stage a plan is sufficiently developed to allow for hearings and a decision, taking into account the evidence on the current state of the plan.[58]

While FEMA officials had not had an opportunity to review the personnel response survey at the time of the hearing and indicated at the hearing that they could not make any final adequacy determination until New Hampshire had incorporated the survey as part of its planning basis, they did declare that the survey, in and of itself, represented "substantial progress" towards remedying FEMA's previous concerns about response personnel resource inadequacies.[59] Given this FEMA recognition of the central role of the survey in addressing its concerns, we cannot say that the Licensing Board abused its discretion in proceeding with hearings on the issue and in making findings without awaiting further FEMA review of the matter.[60]

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[57] *Cincinnati Gas & Electric Co.* (William H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 775 (1983) (citation and footnote omitted). *See also Pacific Gas and Electric Co.* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), ALAB-776, 19 NRC 1373, 1379 (1984); *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), ALAB-717, 17 NRC 346, 379-80 (1983).

In *Zimmer*, we also expressed concern that an interpretation of section 50.47(a)(2) requiring a final FEMA finding would be at odds with the then-existing FEMA/NRC Memorandum of Understanding, which provided that FEMA will offer its preliminary views on the state of offsite emergency preparedness based on the plans currently available to FEMA. 17 NRC at 775 & n.21 (citing 45 Fed. Reg. 82,713 (1980)). Although that memorandum of understanding subsequently was revised, *see* 50 Fed. Reg. 15,485 (1985), we see nothing in the amended version to change our conclusion in that regard.

[58] *Zimmer*, 17 NRC at 775.

[59] Tr. 4098, 4109, 4166.

[60] We fail to see why the Board's findings relative to the personnel resources adequacy had to await a FEMA finding on the results of a full-scale exercise, which in this proceeding was subject to challenge in a later hearing. *See* LBP-89-32, 30 NRC 375, 615-50 (1989), *appeals pending*. Moreover, as applicants and the staff point out, Applicants Brief at 37; NRC Staff Brief at 15 n.14, FEMA did make final findings of adequacy on this issue, albeit after the conclusion of the hearing on the NHRERP. *See* Applicants' Exh. 43D, at

2. The second matter, raised by intervenor SAPL, concerns the adequacy of replacement workers for local personnel who may be withdrawn from emergency response activities because they have reached radiation exposure limits. Under the NHRERP, the specified limit for local emergency workers in 5 roentgens (R) rather than the 25R limit allowed by the Environmental Protection Agency's Protective Action Guides (PAGs). This 5R limit for local emergency workers also is the same as the highest value for whole body dose established by the PAGs for the general population.[61] SAPL asserts that the 5R exposure limit "could be delivered to a large number of the 1300 State and local emergency workers relatively quickly under certain scenarios," thereby resulting in severe personnel shortages because of a lack of an adequate backup pool of trained workers.[62]

SAPL's argument fails to acknowledge several important points concerning the planning basis upon which the 5R exposure level rests. Management of emergency worker exposure based upon tracking and reporting procedures incorporated in the NHRERP would include rotation of assignments among local emergency response workers or assignment removal for any individual whose radiation exposures indicate a trend toward the 5R limit.[63] It is not expected, however, that this generally will be necessary. Because local emergency worker exposure limits fall within the range established by the PAGs for the general public and because local response personnel have no emergency assignments to perform after protective actions for the public have been completed, these workers would take the same protective actions at the same time as the last of the general public, thereby restricting their exposure to the

30-31 (FEMA Review and Evaluation of the State of New Hampshire Radiological Emergency Response Plan for Seabrook Station (Dec. 1988)). Although the option was open to them, *see Zimmer*, 17 NRC at 776, none of the intervenors sought at that time to reopen the record or to file late contentions regarding the adequacy of FEMA's findings.

[61] Applicants' Direct Testimony No. 3, at 14-15.

[62] SAPL Brief at 33.

[63] Applicants' Direct Testimony No. 3, at 14.

same level as that incurred by the public.[64] Those post-protective action activities that must be undertaken, such as access control to excluded area, field monitoring, plume tracking, and environmental sample collection are to be undertaken by State emergency workers, who under the NHRERP are subject to the specified emergency worker PAG of 25R.[65] Through this mechanism, the State's goal of limiting local worker exposure to that of the general public is to be met, although it is not intended that local emergency responsibilities will be allowed to go unmet prior to the public's completion of any prescribed protective actions.[66] In the absence of any convincing showing by intervenors contravening this planning basis, the Licensing Board properly concluded that, even with the lower local worker exposure levels, there will be adequate State and local response personnel available to carry out their duties in the event of a radiological emergency.

II. HUMAN BEHAVIOR IN EMERGENCIES

Again relying upon the Commission's criteria relative to adequate emergency response personnel resources, as well as its requirements and guidance regarding such matters as the preparation of protective action guidelines, before the Licensing Board intervenors challenged the NHRERP's purported failure to consider and to compensate adequately for what they assert will be nonresponsive or disruptive behaviot by emergency personnel and others.[67] The Licensing Board found these challenges to be meritless. The Board's decision in this regard is now contested by the MassAG, SAPL, and TOH. Their concerns center on two areas: (1) whether behavior by the general public, especially automobile drivers, will disrupt significantly the evacuation process; and (2) whether those

[64] *Id.* at 15-16.

[65] *Id.* at 15.

[66] *Id.* at 16.

[67] *See* Applicants' Direct Testimony No. 7 (Evacuation Time Estimate and Human Behavior in Emergencies), fol. Tr. 5622, at 2-9.

with emergency response duties, particularly school teachers, will respond to fulfill their responsibilities in the event of a radiological emergency at Seabrook. With respect to the first matter, we find that the adjudicatory record supports the Licensing Board's finding that behavior by the general public will not prevent an adequate emergency response under the NHRERP. Our review of the record relevant to the second concern had led us to conclude that those expected to provide assistance under the NHRERP, including school teachers, will respond to perform those duties necessary to ensure an adequate emergency response.

A. In its December 1988 decision, the Licensing Board concluded that, in the event of a radiological emergency at the Seabrook Station, panic and disruptive behavior on the part of the general public, and particularly on the part of those using automobiles as a means of evacuation transportation, will not seriously impede response to protective action recommendation.[68] Intervenors MassAG and SAPL maintain that significant aberrant behavior will occur and that planners have failed adequately to factor it into emergency planning efforts with regard to matters such as evacuation route blockage and providing for a sufficient number of traffic control personnel on area highways.[69]

As support for their position that such behavior will be a significant factor, intervenors cite testimony by local police officers, town officials, and residents describing disorderly driver behavior, particularly during the summer tourist season when traffic is heavy, that has included refusal to follow established traffic patterns and driving on the roadway shoulder or in oncoming lanes.[70] Also, referencing testimony from these witnesses concerning traffic blockages and delays that have arisen in the past from accidents, breakdowns, and stalled vehicles during heavy summer traffic periods, intervenors assert that

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[68] LBP-88-32, 28 NRC at 747, 749-50.

[69] Massachusetts Attorney General's Brief on Appeal (Mar. 24, 1989) at 4-5, 20-24 [hereinafter MassAG Brief], SAPL Brief at 62-63.

[70] MassAG Brief at 21-24; SAPL Brief at 62-63.

the same types of behavior and problems are likely to arise (and be much worse) during a summertime evacuation from the beach area. These problems, in conjunction with disorderly driver behavior, assertedly will hinder the flow of traffic out of the area and the progress of response personnel and emergency vehicles (e.g., tow trucks) into the area so as to render effective emergency response an impossibility under the NHRERP.

As additional support for the proposition that disorderly behavior will be a significant factor in an evacuation, the MassAG relies upon the "beach blanket" survey of over 580 beachgoers conducted for intervenors by sociologist Dr. Albert E. Luloff.[71] In this regard, the MassAG notes that the evidence before the Licensing Board concerning the survey showed that slightly more than a fifth of the surveyed beachgoers indicated they would not follow a policeman's instructions on which evacuation routes to use; another twenty percent said compliance would depend on the circumstances and the instructions; and nearly forty percent indicated they would abandon their cars during an evacuation if they had not moved very far after three hours in the vehicle — factors that the MassAG contends demonstrate a grave potential for traffic disorderliness. The MassAG also asserts that the Licensing Board failed to give proper consideration to the testimony of his traffic expert, Dr. Aveshai Ceder, who declared that accident rates in the congested flow traffic conditions during a summertime evacuation would be substantially higher than under normal conditions.[72] Added to this, intervenor SAPL contends, is the Board's failure to give appropriate weight to the intervenor-sponsored testimony of social geographers Drs. Donald J. Zeigler and James H. Johnson, Jr., and radiologist Dr. Donald L. Herzberg regarding the general population's fear of radiation, and to testimony of local residents concerning the specific conditions at the Seabrook site, including the visibility of the plant to

[71] MassAG Brief at 24.

[72] *Id.* at 25-26.

drivers attempting to exit the beach area.[73] This testimony, intervenors assert, provided substantial additional support for their position that, notwithstanding the efforts of planners embodied in the NHRERP, there will be panic and aberrant behavior in the event of a radiological emergency that will have the effect of impeding seriously emergency response efforts.

Both the applicants and the NRC staff support the Licensing Board's determination that intervenors' concerns about aberrant, disorderly behavior and its effects are greatly exaggerated. They further assert that, in reaching this conclusion, the Board properly relied upon the testimony of applicants' witness Dr. Dennis S. Mileti, a sociologist and Director of the Hazards Assessment Laboratory at Colorado State University.[74]

As they impact upon human behavior generally, Dr. Mileti declared that emergencies are unique situations.[75] He also stated that mass emergencies (such as might arise at Seabrook) that could pose a collective threat to an entire community are, in terms of behavioral effect, in a class by themselves.[76] Although acknowledging that there is some dispute on the issue,[77] on the basis of empirical research accumulated over three decades regarding public behavior in geological, climatological, and technological emergencies, Dr. Mileti asserted that mass emergencies transform both group and individual goals and objectives in a singular manner:

> The first priority for virtually all people who find themselves in such a collective threat situation becomes the collective safety of people and the community at large.

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[73] SAPL Brief at 59-61, 63.

[74] Applicants Brief at 28-30, NRC Staff Brief at 32-37. Although the applicants presented direct testimony on the issues of evacuation time estimates and human behavior through a panel, Dr. Mileti was solely responsible for the human behavior portion of the testimony. *See* Tr. 5627, 6304.

[75] Applicants' Direct Testimony No. 7, at 94.

[76] *Ibid.*

[77] Tr. 6382-83, 6414-17.

> People abandon personal forms of identification and personal interests, and they identify with the entire human collective or community that is threatened. This "shift" in the human character has come to be known by many names, for example, the "therapeutic community."
>
> The change or "shift" in the social psychological complexion of social life and human behavior results in a variety of principles that emerge to document the character of emergency behavior. This includes, for example, a dramatic decline in activities and behavior that run counter to the good of the collective and those that are based in individual or personal interests, and a dramatic increase in acts and behavior that bring people together and help one another.[78]

Dr. Mileti also declared that this shift would "undoubtedly" occur in an emergency at the Seabrook plant, as it has occurred in every mass emergency that has been the topic of investigation (and has been evident even in emergencies where it was not specifically investigated).[79] As a consequence, Dr. Mileti rejected the notion that the "thin-veneer of civilization" is stripped from human behavior during mass emergencies, declaring instead that "[p]ublic behavior is rational, and the emergency goals of helping themselves as well as others take precedence over almost all else; the character of human spirit is strong when faced with mass emergencies and most people rise to the occasion."[80] He concluded, therefore, that concerns that aberrant driver behavior (e.g., accidents, misuse of incoming lanes and highway shoulders, abandoned vehicles)

[78] Applicants' Direct Testimony No. 7, at 94-95 (citation omitted). *See also id.* at 105. Dr. Mileti further testified that the concept of the "therapeutic community" was not tied to a situation in which the individuals involved knew each other; instead, it would apply in any situation in which people experience a common threat from a rapidly developing external force. Tr. 6438, 9426-27.

[79] Applicants' Direct Testimony No. 7, at 95.

[80] *Id.* at 96.

would create substantial emergency response impediments were unfounded.[81]

Dr. Mileti also refused to accept the thesis that the "unique" nature of radiological accidents renders general behavioral principles such as the "therapeutic community" concept inapplicable. Dr. Mileti declared that, while the descriptive accounts of how people respond to emergencies will vary from one emergency to the next, the determinants of human behavior — the reasons why people respond in different ways to an emergency — are transferable across emergency types.[82] As a result, he was unwilling to accept the argument that, by their very nature, radiological events are so unique that they are subject to a unique set of behavioral precepts.[83] This assumption, according to Dr. Mileti, contradicts the basic social science premise that there are knowable reasons and patterns in human behavior that are discoverable through systematic scientific inquiry.[84]

In addition, Dr. Mileti disputed the alternative formulation of the radiological "uniqueness" argument, which recognizes that there are knowable determinants of human behavior but nonetheless concludes that "fear" of radiation based upon its allegedly "unique" characteristics (e.g., invisibility) is so pronounced that human behavior in radiological emergencies will be radically different from behavior in nonradiological emergencies.[85] Dr. Mileti acknowledged that there are differences between radiological emergencies and nonradiological emergencies, including a difference in the way the public, on average, perceives the risks involved in a radiological emergency.[86]

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[81] *Id.* at 101-05. By way of example, Dr. Mileti noted that, although the NHRERP calls for the use of tow trucks to remove vehicles that might be stalled or abandoned in the course of an evacuation, it was also reasonable to assume that the public will act on its own to aid in the evacuation by pushing abandoned or stalled vehicles out of the way. *Id.* at 102-03. *See also* Tr. 6396.

[82] Applicants' Direct Testimony No. 7, at 137-38.

[83] *Id.* at 138; *see* Tr. 6426.

[84] Applicants' Direct Testimony No. 7, at 138.

[85] *Ibid.*

[86] *Ibid.*

He declared, however, that these differences do not negate the efficacy or "quality" of the behavioral determinants that have been recognized as applying generally to mass emergency situations.[87] Instead, the relevance of these differences is in terms of their impact on the "value" or "quantity" that the determinant should be afforded when analyzing its influence on human behavior.[88] In developing an emergency plan, therefore, what is important in Dr. Mileti's view is to identify the applicable behavioral determinants, to account for the determinant "values" or "quantities" that are applicable in that emergency situation, and, to the degree they produce undesirable effects or constraints on emergency response behavior, to take appropriate compensating measures.[89]

In examining the particular issue of the public's perception of risk as invoking detrimental behavioral responses in a radiological emergency, Dr. Mileti noted that for most people in an emergency, "situational perceptions of risk" are a leading determinant of behavioral response.[90] According to Dr. Mileti, in an emergency people do not undertake a "knee-jerk" response; rather, they react on the basis of their perception of the risk, which is derived from their understanding of the situation as it is being experienced.[91] One element of situational risk perception could be pre-emergency risk perception or "pre-emergency fear" — that is, how the individual perceived the risk prior to the emergency.[92] In the case of radiological emergencies, Dr. Mileti acknowledged that the data collected so far "would lead one to conclude that in general the mean of hazard risk perception is higher for radiological hazards than for natural hazards."[93] In his opinion, however, this "fear"

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[87] *Ibid.*

[88] *Id.* at 139.

[89] *Ibid.*

[90] Applicants' Direct Testimony No. 7, at 151; Tr. 6340.

[91] Applicants' Direct Testimony No. 7; *see* Tr. 6324. Thus, according to Dr. Mileti, situational risk perceptions are based upon what people "perceive is the risk and what to do about it, and it is those perceptions which are formed during the emergency that guides their behavior." Tr. 6324.

[92] Tr. 6339.

[93] Tr. 6430.

element, as well as others that potentially could impose constraints on sound emergency public response,[94] can be overcome by utilizing properly what he perceives as the key determinant of situational risk perception formulation — emergency information. In this regard, he declared:

> [I]n the context of good emergency planning addressing the key determina[nt] of situational risk perception formation, which is emergency information, we can presume that the EPZ in the future is filled with totally fearless people and/or totally fearful people, or what's most likely the case, a range of people along that continuum, and design the emergency information that goes to the public in such a way that we can help the fearless

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[94] In addition to pre-emergency fear, Dr. Mileti noted that age and gender also can play a role in constraining sound situational risk perception. Applicants' Direct Testimony No. 7, at 151-52. According to Dr. Mileti, research findings indicate that, in the face of less-than-desirable emergency information, women are likely to perceive risk to be higher than men and are more likely to engage in protective actions, *id.* at 152, and that older people generally have a harder time coming to believe they are at risk so that, in the face of infrequent warnings, they are less likely to engage in protective actions than younger persons, Tr. 6355-57.

In the context of his "therapeutic community" concept, Dr. Mileti also was unwilling to endorse the notion that "panic" would be a critical factor in public response to a radiological emergency. He described panic as "persons so concerned about themselves that they step on the persons' [sic] next to them's [sic] face and not notice it in an attempt to flee what they consider to be a life and death situation [in which] if they don't act immediately death will come to pass." Tr. 9411; *see* Applicants' Rebuttal Testimony No. 5, fol. Tr. 9408, at 3. He declared further that the circumstances in which panic might result, which generally would involve fear for immediate physical survival with escape routes blocked (such as might exist in a major fire at a crowded theater or nightclub), are not present in a radiological-emergency because people would be leaving an open geographic space, whether by car or otherwise, and accordingly would not perceive that their escape was "blocked" so as to make death imminent. Applicants' Rebuttal Testimony No. 5, at 3-4; *see* Tr. 9415-16. Further, although Dr. Mileti acknowledged that "in the world of all human possibilities" some individuals might panic in a radiological emergency, he also stated that he was unaware of any empirical evidence to support the proposition that human behavior in collective emergencies is characterized by panic. Tr. 9413.

> and the fearful come to form accurate risk perceptions in the emergency, and help them make good decisions about how to behave.[95]

Thus, providing "good" emergency information is of central importance in neutralizing factors that might otherwise retard a positive response to an emergency situation by the "therapeutic community." Further, on the basis of his review of the proposed Emergency Broadcast System (EBS) messages for the NHRERP, which he considered should and would be the focus of public attention in a radiological emergency, Dr. Mileti concluded that these messages, with some modifications, should provide "the listening public a most solid footing from which to base sound decision-making."[96]

As further support for the proposition that aberrant behavior will not be a factor in an emergency response, both applicants and the staff direct our attention to the testimony of the staff's traffic expert, Dr. Thomas Urbanik.[97] Dr. Urbanik's testimony that there is no evidence that aberrant driver behavior has been a factor in any evacuation in the history of the United States was found by the Licensing Board to be persuasive and uncontradicted by intervenors.[98]

After reviewing the positions of the various parties and the record evidence upon which they rely, we find that the Licensing Board acted reasonably and in accordance with its role as the Commission's primary fact-finding tribunal in concluding that aberrant behavior on the part of the general public, particularly automobile drivers, will not be a significant impediment in the event of an emergency at Seabrook. Anyone who has ever been behind the wheel of, or been a passenger in, an

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[95] Tr. 6342.

[96] Applicants' Direct Testimony No. 7, at 155-56, 159.

[97] Applicants Brief at 29 (citing Testimony of Dr. Thomas Urbanik II on Behalf of the NRC staff on [TOH] Contention III, and SAPL Contentions 18, 31, 34, and 37, fol. Tr. 7372, at 17; Tr. 7485-86); NRC Staff Brief at 33-34 (same). Dr. Urbanik's credentials are described in more detail *infra* at note 220.

[98] LBP-88-32, 28 NRC at 746.

automobile no doubt can relate a tale of aberrant driver behavior similar to (or worse than) those told by the intervenors' police and civilian witnesses. Indeed, human nature being what it is, we entertain no illusions that a radiological emergency at Seabrook will engender no "aberrant" behavior on the part of drivers and others.[99] The critical point, however, and one that Dr. Mileti's expert testimony on the "therapeutic community" addresses directly, is that such behavior will not be the norm or, indeed, a sufficiently significant consideration so as seriously to impede effective emergency response under the NHRERP.[100] This conclusion is further bolstered by Dr. Mileti's testimony concerning the role of emergency information in countering the public's "pre-emergency fear" and the adequacy of the Seabrook emergency information for that purpose, as well as by Dr. Urbanik's unrebutted observation that there is no evidence that aberrant driver behavior has ever played a significant role in an evacuation situation.

To be sure, intervenors have presented testimony challenging these conclusions. Much of their expert evidence is, however, of questionable probative value.[101] The same can be said

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[99] In fact, as SAPL notes, SAPL Brief at 62, making reference to his own father, Dr. Mileti recognized it is possible in an emergency evacuation situation that some individuals will engage in individual, rather than community-oriented, behavior. Tr. 9432. He was not, however, willing to characterize this behavior as "probable" or "the behavior of most people." *Ibid.*

[100] *See* Applicants' Rebuttal Testimony No. 2, fol. Tr. 9407, at 2-3; Tr. 9432-33. In this regard, although Dr. Mileti stated that he was not an expert on "driver behavior," contrary to intervenors' assertions, *see* MassAG Brief at 28, SAPL Brief at 63-64, the Licensing Board's conclusion that he demonstrated sufficient expertise in human behavior in emergency situations to be qualified to testify on driver behavior in such situations was reasonable. Given his expertise, Dr. Mileti's testimony is certainly more probative than that of Dr. Herzberg, whose testimony on disruptive behavior is championed by intervenor SAPL. *See* SAPL Brief at 59, 60-61. Indeed, the latter's expertise in diagnostic radiology and nuclear medicine and the very limited nature of his experience in radiological emergency response (i.e., as a participant in a medical facility's portion of an emergency drill) provide a wholly insufficient basis for affording Dr. Herzberg's opinions the weight intervenor asserts they should have. *See* LBP-88-32, 28 NRC at 713.

[101] For instance, the validity of Dr. Luloff's "beach blanket survey," upon which the MassAG relies (as does SAPL in the context of its argument con-

for the testimony of their lay witnesses.[102] Nonetheless, even if we accept the crux of intervenors' position that others, includ-

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cerning reception centers, *see* SAPL Brief at 50) as problematic. Applicants have identified a number of alleged deficiencies in the survey that they assert were revealed in cross-examination of Dr. Luloff and their own rebuttal testimony challenging the external and internal validity of the survey. *See* Applicants Brief at 28 n.7 (citing Applicants' Rebuttal Testimony No. 4, fol. Tr. 9155, at 13-15 and Tr. 8220-65 (cross-examination of Dr. Luloff)). Relying on the applicants' discrediting of Dr. Luloff's survey, the Licensing Board thus described the survey as "flawed." LBP-88-32, 28 NRC at 747.

The MassAG challenges this Licensing Board conclusion on the basis of the Board's refusal to permit him to file surrebuttal testimony addressing these criticisms of the survey. MassAG Brief at 27; *see* Offer of Proof ([MassAG] Proposed Surrebuttal Testimony to Applicants' Rebuttal Testimony Nos. 3 and 4) (Feb. 26, 1988). The admission of surrebuttal testimony is a matter within the discretion of the Board, particularly in instances such as this in which the party sponsoring the testimony reasonably should have anticipated the attack upon its evidence (i.e., the validity of the methodology used in conducting the survey and interpreting its results). *See Cellular Mobile Systems* v. *FCC*, 782 F.2d 182, 201-02 (D.C. Cir. 1985).

The MassAG also contends that compelling evidence supporting his traffic disorderliness thesis is found in the testimony of his transportation science expert, Dr. Aveshai Ceder. MassAG Brief at 25-26. Dr. Ceder averred that the extent and duration of traffic congestion indicates a high probability, indeed a virtual certainty, that serious, injury-producing accidents will occur during an evacuation. *See* Corrected Testimony of Aveshai Ceder on Behalf of the [MassAG] on SAPL 31 and TOH III (Evacuation Road Capacities), fol. Tr. 5169, at 24-27; Tr. 5374-75. As applicants and the staff point out, however, Applicants Brief at 24; NRC Staff Brief at 36-37, the MassAG does not acknowledge that he (like SAPL with regard to its reception center argument noted *supra*, *see* NRC Staff Brief at 29) failed to present this assertion to the Licensing Board. *See* [MassAG]'s Proposed Findings of Fact and Rulings of Law (May 19, 1988). The MassAG's argument is thus foreclosed by the "settled principle of appellate practice that an appellant is ordinarily precluded from pressing issues or advancing arguments not presented to the trial tribunal." ALAB-924, 30 NRC at 358. Nor do we find any reason here to invoke the narrow "serious substantive issues" exception to this principle. *Ibid.* This is particularly so because Dr. Ceder's conclusions rest in large part on the questionable premise that research concerning traffic incidents at highway construction zones, which would include "work zones" (i.e., an area with barricades, cones, and traffic guides) situated along stretches of open roadway, can be equated profitably with the circumstances that will exist during an evacuation in which the "work zone" (i.e., the traffic control point or access control point, *see infra* note 174) will be at an intersection and in a traffic flow expected to attain, on average, speeds in the vicinity of 10 miles per hour. *See* Tr. 5338-45, 5362.

[102] The lay testimony referred to *supra* at pp. 391-92, was offered by intervenors to establish that the "unique" character of the Seabrook site enhanced

ing recognized experts, legitimately hold conflicting views about the likelihood and effects of aberrant behavior in a radiological emergency, "the possibility that inconsistent or even contrary inferences could be drawn if the views of the [intervenors'] experts were accepted does not prevent the trial board's findings from being supported by substantial evidence."[103] In this instance, after giving the Licensing Board's factual findings the probative force they intrinsically command,[104] we find no occasion to gainsay the Board's findings on aberrant behavior by the general public.

B. In addition to challenging planning assumptions concerning the general public's behavior in an emergency, before the Licensing Board intervenors attacked the planning premise

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the likelihood that in the event of an emergency there would be serious disruptive behavior, particularly by drivers during a lengthy evacuation. Countering intervenors' assertions on this score, however, is the testimony of staff expert Dr. Urbanik who declared:

> Certainly Seabrook is unique, but there have been extensive periods of congestion where people have been stuck in their cars for hours and hours before they have arrived at their destination. So, it is not black and white. I mean it is not that we have got one just like Seabrook. But on the other hand, it is not like there is not anything that is not like it at all.

Tr. 748. Further, citing as an example the extensive evacuation in the early 1960s of 200,000 people from the Texas coast brought on by Hurricane Carla during which evacuees were in traffic "for hours and hours," Dr. Urbanik concluded that for "major, large-scale evacuations" there was "no experience with accident problems; no experience with aberrant behavior. Nothing empirically that would lead us to the conclusion that people are going to act out of the way that we want them to act, if they are stuck in traffic for hours." Tr. 7489-90. We find nothing in intervenors' lay testimony that is sufficient to demonstrate that the actions of those involved in an emergency situation at Seabrook would be significantly different from those described by Dr. Urbanik.

We also fail to see how the 1972 "youth riot" in the beach area referenced by SAPL as evidence of potential disorderliness, *see* SAPL Brief at 61, has much of anything to do with human behavior during natural or technological emergencies.

[103] *Northern Indiana Public Service Co.* (Bailly Generating Station, Nuclear 1), ALAB-303, 2 NRC 858, 866 (1975) (citations omitted).

[104] *See* ALAB-924, 30 NRC at 367 & n.165; *Bailly*, 2 NRC at 867.

that emergency workers would react appropriately in the event of a radiological emergency at Seabrook. Specifically, intervenors asserted that abandonment of emergency response roles by both professionals and volunteers, including law enforcement officials, school personnel, and bus drivers, would create significant deficiencies in emergency response efforts.

Intervenors maintained below that the testimony of Drs. Zeigler and Johnson established that significant numbers of emergency workers would abandon or delay performing their response duties in an effort to protect themselves and their families.[105] As support for their position that emergency worker role abandonment would be a serious problem in a radiological emergency, these witnesses relied upon a number of different sources. Among them were sociological research suggesting that in times of disaster families tend to want to be together and to evacuate together; "disaster literature" assertedly establishing that those in emergency response roles who experience a conflict because of their family responsibilities inevitably will abandon their emergency worker roles; several recent studies purporting to show emergency role abandonment during the 1979 accident at Three Mile Island (TMI); surveys of school bus drivers, volunteer firefighters, and teachers within the vicinity of the Shoreham and Diablo Canyon nuclear facilities indicating a strong concern for the welfare of their families in the event of an emergency; and a telephone survey of local residents in which some forty percent of the individuals who identified themselves as having emergency response roles in the event of a Seabrook emergency stated that they would delay reporting for duty until they had assured themselves of the safety of their families.[106]

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[105] *See* LBP-88-32, 28 NRC at 735. In addition, as will be seen later, intervenors presented other witnesses who addressed specifically the likely response of schoolteachers to a Seabrook radiological emergency.

[106] Testimony of Donald J. Zeigler, James H. Johnson, Jr., and Stephen Cole on Behalf of the [MassAG] on SAPL Contention 7, SAPL Contention 8A, SAPL Contention 15, SAPL Contention 25, SAPL Contention 31, [TOH] Contention III and [TOH] Contention IV, fol. Tr. 7849, at 40-53.

To counter intervenors' presentation, applicants again proffered testimony by Dr. Mileti. He acknowledged that individuals play many different societal roles with different rights and obligations.[107] He also observed that, while there may be instances in which an individual's different roles will appear to "conflict," this does not necessarily mean that the person will engage in behavior that constitutes abandoning one of those roles entirely.[108] Rather, the individual is more likely to experience "role strain," in which he or she is subject to a mental state of concern and uneasiness.[109] Dr. Mileti maintained that such role strain is a permanent feature of social life and something with which people must cope in most societal situations.[110]

Dr. Mileti conceded that some of the early literature on disasters and emergencies describes behavior that appears to demonstrate that an emergency worker's role conflict between family responsibilities and emergency response duties inevitably will be resolved in favor of the family role, thereby contributing at least initially to disorganization in disaster response efforts.[111] It was his assertion, however, that this research failed to take into account a significant factor: the individual's pre-emergency conception of the role he or she should be playing in response to an emergency.[112] According to Dr. Mileti, other research that has focused on this factor demonstrates that when an emergency worker's role is clearly defined prior to the emergency — "perhaps through training and planning" — emergency workers will not abandon their response roles.[113] In this regard, Dr. Mileti stated that pre-emergency training and planning measures can be effective in combatting the possibility of role abandonment because they give the

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[107] Applicants' Direct Testimony No. 7, at 106.
[108] *Id.* at 106-07.
[109] *Id.* at 107.
[110] *Ibid.*
[111] *Id.* at 107-11.
[112] *See id.* at 112-17.
[113] *Id.* at 117-19.

worker a clear idea of his or her responsibilities and of the degree to which the community and other emergency workers are depending upon him or her in an emergency.[114] These measures also provide information that will make the worker aware of the nature of the risk involved and the utility of family contingency plans to ensure that the emergency worker can fulfill his or her responsibilities without concern for the safety of family members.[115]

On this latter point, Dr. Mileti also declared that, if an emergency worker has not already made advance plans for someone (a spouse, relative, neighbor, or other appropriate person) not involved in emergency response to take measures to protect his or her family, in seeking to alleviate any mental "role strain" he or she will act by improvising measures to ascertain whether family members are safe.[116] His judgment thus was that "emergency workers who know of their emergency roles in advance of an emergency perform their emergency functions in the event of an emergency."[117] Finally, summarizing the data concerning emergency worker role abandonment, Dr. Mileti concluded that "a large body of historical evidence shows the functioning of emergency organizations is not hampered by failure of emergency workers to perform their jobs" and that, "[w]hile role abandonment may be theoretically possible, it is certainly extremely rare, and consequently it does not reduce organizational effectiveness."[118]

In reviewing the conflicting expert testimony, the Licensing Board found "very persuasive" Dr. Mileti's interpretation of the research or emergency response phenomena and his conclusions concerning the central function of emergency worker role certainty in negating role abandonment.[119] The Board also determined that the intervenors' evidence concerning role

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[114] *Id.* at 124.

[115] *Ibid.*

[116] *Id.* at 120-21.

[117] *Id.* at 124-25.

[118] *Id.* at 125.

[119] LBP-88-32, 28 NRC at 739.

abandonment during the TMI accident provided little support to counter Dr. Mileti's conclusions. Its determination in this regard was based principally on the Board's conclusion that, because there was no effective radiological emergency response planning and few emergency role assignments with respect to TMI, there was no reliable evidence of the existence of the type of worker role certainty that Dr. Mileti's analysis indicated would significantly deter role abandonment.[120] The Board additionally found that, even if it accepted intervenors' survey evidence on local emergency worker responses as statistically reliable (which applicants asserted it was not), the survey nonetheless was unpersuasive. The Board noted that the survey's significance for intervenors' witnesses rested on their assumption that, because overloaded switching equipment would make telephone contact impossible during an emergency, the one-third of emergency worker survey respondents who declared they would check on their families by telephone before reporting for emergency duty would become frustrated and ultimately would abandon their duties to seek out their families.[121] The Board concluded, however, that this premise was faulty because the record concerning telephone communication during a radiological emergency at Seabrook established it was very unlikely that an emergency worker (or anyone else) would experience lengthy delays in successfully completing telephone calls.[122] The Board declared further that, with this assumption discarded, the survey results in fact suggest that some ninety percent of the emergency workers questioned would either report immediately or after a short delay while checking upon their families, thereby demonstrating widespread role acceptance rather than role abandonment.[123] Thus, accepting the analysis of Dr. Mileti in preference to that

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[120] *Id.* at 741.

[121] *Id.* at 736.

[122] *Ibid.* The Licensing Board's findings regarding the availability of telephone service in the event of an emergency, *see id.* at 727-28, have not been challenged before us by intervenors.

[123] *Id.* at 736.

put forth by the intervenor witnesses, the Licensing Board concluded that role abandonment by those with emergency response duties under the NHRERP generally would not constitute a serious obstacle to an effective emergency response in the event of a radiological accident at Seabrook.[124]

Before us, intervenors do not challenge the Licensing Board's conclusions concerning role abandonment by emergency workers generally.[125] Instead, intervenors SAPL and TOH have mounted a narrower attack, asserting that the evidence before the Board did not support its conclusion that schoolteachers would fulfill their particular emergency response role under the NHRERP.[126]

With respect to school teachers, a major focus before the Licensing Board was on the weight and effect to be afforded to the sworn testimony of thirteen teachers concerning their own response, and the response of teachers generally, in the event of a Seabrook emergency. The Board described teachers' responsibilities under the NHRERP as including accounting for the students in their direct care, taking those students to a central place in the school in order to allow for a school-wide accounting to be made (and to engage in sheltering if that is the recommended protective action), and accompanying the students on school buses to the reception centers that would be the students' destination in the event of an evacuation.[127] The

[124] *Id.* at 749. For the reasons addressed in our discussion concerning behavior of the general public, *see supra* pp. 394-97, the Licensing Board also rejected an intervenor assertion that fear of radiation would result in role abandonment by emergency workers. *See* LBP-88-32, 28 NRC at 741-42.

[125] Although SAPL notes that the Licensing Board, citing the "realism/best efforts" presumption regarding state and local governmental nonparticipation in emergency planning, refused to credit the testimony of local officials that they and other public officials would not respond in the event of a radiological emergency, *see id.* at 728-29, 732-35, it does not contest that determination. SAPL Brief at 58.

[126] *See* SAPL Brief at 58-61, Town of Hampton's Brief in Support of Appeal (Feb. 10, 1989) at 36-42.

[127] LBP-88-32, 28 NRC at 729-30. Under the terms of the NHRERP, teachers' duties also would extend to staying at the reception centers until the children are claimed by their parents or legal guardians or the teachers are relieved by other personnel. *E.g.*, NHRERP (Hampton Special Facilities Plans), Vol. 18A, at F.3-6.

teachers, however, testified that, acting upon the belief that in the event of a Seabrook emergency their own children and other dependents would be in grave danger because of the unworkability of the NHRERP, they would promptly leave their students without performing any of these duties in order to care for their own families.[128] Further, on the basis of their attendance at meetings and conversations with other teachers, the teachers predicted that almost all of the teachers in the Seabrook EPZ would act similarly in the event of an emergency.[129] Also in support of this point, the teachers described the results of a survey they and other teachers conducted that indicated that, for nearly all the teachers in fifteen schools within the EPZ, only four percent were willing to implement the NHRERP.[130] In addition, intervenors introduced into evidence a petition signed by 597 teachers from schools within the EPZ that stated "[w]e DO NOT accept the conflicting duty which the Emergency Response (Evacuation) Plan assigns us. We believe it is inappropriate to expect us to provide emergency support for our students during a nuclear accident which would simultaneously place our families in danger."[131]

In considering the teachers' testimony, the Licensing Board described twelve of the thirteen teachers as "serious, fair-minded, and . . . sincere" and declared it had "no reason to believe that the teachers appearing before us have any less commitment to their pupils than do other teachers."[132] The Board also stated that it accepted the central theme of the teachers' testimony that they believe "that in a radiological emergency at Seabrook . . . there will be chaos; there will be

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[128] *See* Corrected Prefiled Testimony of [Thirteen Teachers] Regarding [TOH] Revised Contentions IV and VI and [SAPL] Contentions 8, 8A, and 15, fol. Tr. 3945, at 3, 8-9 [hereinafter Teachers' Direct Testimony].

[129] *Id.* at 5.

[130] *Id.* at 5-8.

[131] TOH Exh. 10.

[132] LBP-88-32, 28 NRC at 731. The Licensing Board rejected the testimony of the thirteenth teacher on the basis that her views were "hopelessly biased" because of her activities, including attempted disruption of the Board's hearings, as an official of an anti-Seabrook organization. *Ibid.*

an unworkable plan in effect, protective information will be unreliable, and their pupils will be in danger."[133] The Board found that essential to the teachers' prediction of pupil abandonment was "the belief that their own children and dependents will simultaneously be in danger — their children's teachers having also abandoned their pupils."[134] In this regard, referencing testimony by Dr. Mileti to the effect that role conflict is not generally a concept applied critically to one facing a choice of roles, the Board concluded that the teachers "believe that they will select the role of parent rather than that of emergency worker, having rejected the latter status."[135]

Despite these findings, the Board discounted the teachers' testimony and the other intervenor evidence on teacher role abandonment. The Board found the petition and the survey unconvincing because they failed to provide a basis for concluding that the teachers involved actually believed that a radiological emergency at Seabrook would place their dependents in danger or that those signing the petition were told they would be abandoning their students.[136] In addition, it concluded that the dozen educators who testified were not representative of teachers in general because "[e]ach had his or her own reasons for volunteering to appear at the hearing," and "[h]undreds of teachers did not volunteer to testify."[137] The Board also found that the teachers' expressed doubts about the workability of emergency planning under the NHRERP were groundless because "[t]he teachers do not claim to be experts on emergency planning" and "provide no reasoned basis for their assumption" that chaotic conditions will prevail after a Seabrook emergency.[138] Further, the Licensing Board rejected the notion that not enough teachers "would accept evacuation with their pupils" or at least "*see*

[133] *Ibid.*
[134] *Ibid.*
[135] *Ibid.*
[136] *Id.* at 731-32.
[137] *Id.* at 732.
[138] *Ibid.*

their pupils to the school buses" based on its expectation that, while not all teachers will engage in "heroic behavior," they nonetheless will "perform better than the general population in an emergency."[139] Declaring that schoolteachers' reactions would be mixed, the Board concluded that "[s]chool teachers and school officials, as a group, will not abandon their pupils in the event of a radiological emergency at Seabrook."[140]

Intervenors SAPL and TOH assert that, in light of the twelve teachers' testimony, the Licensing Board's general conclusions that it expected teachers to perform better than the general public and to carry out the duties assigned to them in the NHRERP are baseless. Applicants and the staff urge that the Board's decision regarding teacher behavior be affirmed.[141] We do so, although for reasons that, at least in part, differ from those put forth by the Board in its December 1988 decision.

Given the subject matter involved — the safety of schoolchildren — the sworn testimony by these dozen "serious, fair-minded, and . . . sincere" teachers is disquieting. Their declarations that, notwithstanding the tasks attributed to them by the NHRERP, in the event of an announcement of a Seabrook emergency they promptly would leave their students in order to take care of family members and other dependents are particularly troubling when viewed in conjunction with the petition signed by 597 other teachers and the survey, both of which suggest similar actions would be undertaken by a number of other teachers.[142] Thus, it undoubtedly is an under-

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[139] *Ibid.* (emphasis in original).

[140] *Id.* at 749.

[141] Applicants Brief at 13-14, NRC Staff Brief at 31-32.

[142] In concluding that the dozen teachers who testified were not "representative" of other teachers, the Board made particular reference to the fact that "[h]undreds of teachers did not volunteer to testify." *Id.* at 732. The significance the Board apparently attributes to the number of teacher witnesses is questionable, however, for it fails to account for the testimony of one teacher witness who stated that, as the president of the 350-member Portsmouth Teachers Association, he was speaking for the association and he was confident that the testimony of the teachers on the panel was in agreement with

statement to characterize this evidence, as the Licensing Board did with respect to the petition, as "demonstrat[ing] that many teachers are concerned about having a role in the school emergency plans."[143]

Nonetheless, we conclude that, at least insofar as teachers are performing duties corresponding to those they generally undertake in connection with their normal duties and responsibilities, the Licensing Board was correct in its ultimate conclusion that teacher role abandonment does not pose a substantial barrier to an adequate emergency response under the NHRERP. In arriving at the conclusions critical to its determination concerning teacher response, the Licensing Board chose to "ponder the testimony of the teachers on our own, free from the advice of experts."[144] We find, however, that various aspects of Dr. Mileti's expert testimony on human behavioral responses in emergencies, particularly his testimony on emergency worker responses, provide substantial additional support sufficient to assure us that the intervenor-sponsored evidence concerning emergency response by teachers does not warrant a different result.[145]

In reviewing the teachers' testimony, we find relevant Dr. Mileti's conclusion, discussed *supra* in the context of behavioral responses of the general public, that pre-emergency perceptions of risk, and of one's response to that risk, provide

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that of the association's members. Tr. 4024-25. The Board's reference also does not recognize that, as intervenor counsel observed in introducing the teacher petition, "by reason of sheer numbers" the 597 signatories could not appear to testify. Tr. 3938. Indeed, it is doubtful, given the logistical considerations involved, that if all 597 had sought to testify, that would have been permitted. Finally, the Board's statement does not acknowledge that there apparently was no testimony presented from even one teacher to the effect that he or she *would* carry out the role assigned by the plan.

[143] LBP-88-32, 28 NRC at 730.

[144] *Id.* at 731.

[145] In this regard, we note also that SAPL asserts that the Licensing Board erred in its treatment of teacher behavior by stating that the "realism/best efforts" presumption embodied in 10 C.F.R. § 50.47(c)(1)(iii) "should apply to teachers as well as to other government leaders." LBP-88-32, 28 NRC at 731. Given the doubtful role of New Hampshire public and private school-

an uncertain guide to behavior in an actual emergency.[146] In this instance, the teachers' declarations that in an emergency they would leave their students in the classrooms in order to be with their own families, apparently without taking any measures to provide for the children's safety, are like those responses Dr. Mileti declared would not be the norm for the public in emergency situations and, in any event, would seem unlikely for professional educators.

We also find Dr. Mileti's testimony on "role certainty" for emergency workers pertinent to our conclusion that there will be a sufficient emergency response on the part of school personnel. As we previously described in some detail, it is Dr. Mileti's expert judgment that awareness of a response role and familiarity with the particular responsibilities and duties of that role impart certitude to the action of those being relied upon to respond in an emergency and deter role abandonment.[147] The teachers' responses to the survey and the petition leave no doubt that teachers generally are aware that under the NHRERP they have responsibilities,[148] teachers' emergency responsibilities parallel in great measure those duties

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teachers as government officials, *see* ALAB-924, 30 NRC at 344 n.25, SAPL's point is not without merit. Nonetheless, as the staff suggests, *see* NRC Staff Brief at 31, because there is adequate record support for the Board's ultimate conclusion, particularly in view of Dr. Mileti's testimony concerning human behavior, it is not apparent that the rule's presumption was (or need be) utilized in a manner having any substantive effect upon this aspect of the proceeding. Thus, even if mistaken, the Board's "best efforts" statement was harmless error.

[146] *See supra* p. 395.

[147] *See supra* pp. 399-400.

[148] *See supra* p. 402. *See also* Tr. 3977, 4014. The teachers' testimony suggests that they were unable or unwilling to receive training concerning the exact nature of their Seabrook-related emergency duties. *See* Teachers' Direct Testimony at 9-10; Tr. 4013-14. Nonetheless, given their experience with procedures for regular and early dismissals (i.e., for snow storms and other occurrences), both of which generally involve accounting for their students and supervising them until their transportation home arrives, *see* Tr. 3950, 4009-11, we find this of little moment in terms of the teachers' role certainty.

[149] Tr. 4030-31.

they perform as part of their normal, daily, on-the-job activities. Hence, consistent with Dr. Mileti's general emphasis on familiarity with response duties as a factor in role certainty, it is reasonable to conclude that their familiarity with and acceptance of their day-to-day responsibilities creates a high degree of "role certainty" and a correspondingly high probability that in an emergency teachers will act in sufficient numbers to perform their usual roles.[150]

In our previous discussion in ALAB-924 concerning the need for letters of agreement (LOAs) to confirm the participation of school personnel in response activities, we suggested that some, but not all, of the responsibilities assigned to teachers by the NHRERP correspond to their normal, everyday duties. In this regard, we observed that, as part of its discussion of human behavior issues relating to teachers, the Licensing Board found teachers' bus escort duties (which the Board declared rendered them emergency "service providers") different from their other NHRERP responsibilities to account for the children in their care and to see that they are safely aboard transportation.[151] The apparent basis of the Board's finding was that their bus escort duties go beyond those for which teachers ordinarily are responsible.[152] Subsequently, we concluded that this "service provider" designation, in conjunction with the lack of any evidence in the record to show that the bus escort duty was one for which teachers normally were responsible, indicated a need for confirmatory LOAs to cover that escort activity and remanded the matter to the Board for further consideration.[153] Now, in reviewing the Board's

[150] Because of the potential for "doubling up" on supervisory and other roles among school personnel, role abandonment generally would become a concern only if it occurs with some frequency. *Cf. Long Island Lighting Co.* (Shoreham Nuclear Power Station, Unit 1), ALAB-832, 23 NRC 135, 151 (1986) (intervenor evidence regarding teacher role abandonment insufficient because it failed to establish there would not be the minimum number of teachers needed for proper supervision), *rev'd in part on other grounds*, CLI-87-12, 26 NRC 383 (1987).

[151] ALAB-924, 30 NRC at 342-43.

[152] *See* LBP-88-32, 28 NRC at 730.

[153] ALAB-924, 30 NRC at 343-44.

human behavior findings relating to teachers, we find that Dr. Mileti's "role certainty" principle also supports the view that teachers will perform many of their NHRERP-assigned duties (including accounting for and supervising the children and assuring their safe boarding of evacuation buses) because those responsibilities correspond sufficiently to their usual duties.[154] But, by the same token, even with Dr. Mileti's testimony, we remain troubled about whether this can be said with respect their role as escorts on the student evacuation buses.[155] This role may necessitate the teachers' traveling for indefinite periods of time considerable distances from their school and very

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[154] Consistent with its earlier determination that teachers generally are not "providers" of emergency services for purposes of determining whether LOAs are required, *see* LBP-88-32, 28 NRC at 673, the Board did not rely heavily upon Dr. Mileti's expert testimony concerning the responses of "emergency workers" in resolving the human behavior issues relative to teachers. *See supra* note 144 and accompanying text. We have no reticence in this respect, however, because we find that Dr. Mileti's expert analysis concerning emergency worker responses, as described *supra*, is consistent with our analysis, as expressed in ALAB-924, 30 NRC at 342-44, of the need for confirmatory LOAs to encompass certain aspects of participation by school personnel in an emergency response.

[155] In this regard, we are aware that in its discussion of emergency worker role abandonment, referencing testimony of Dr. Mileti at Tr. 6(6)25-26, the Licensing Board declared that Dr. Mileti's "role certainty" principle "provides excellent support for the Board's own view that teachers as a group are highly unlikely to abandon their schoolchildren in an emergency." *See* LBP-88-32, 28 NRC at 740-41. While the cited testimony could be seen as covering all duties assigned to teachers under the NHRERP, without regard to whether the duties correspond to teachers' normal responsibilities, we question this interpretation on two counts. First, in denoting in his testimony the specific emergency duties that teachers would perform, Dr. Mileti stated that "I perceived that [teachers'] role in a radiological emergency would be to get the school children on to evacuation buses and/or sheltered, depending upon the type of recommended protective action." Tr. 6625. These, however, are the type of on-the-school grounds, accounting/supervisory activities we have concluded teachers can be counted on to perform. Further, although Dr. Mileti subsequently stated that "I don't know of one emergency in the history of this country where teachers have abandoned their children and not done what they needed to do," *ibid.*, we find this seemingly broader statement of teachers' duties of questionable relevance in determining whether they will act as bus escorts given the evidence, discussed *infra*, indicating that teachers are not "needed" for that role.

likely their homes and families. Moreover, if a teacher embarks on a bus for the potentially lengthy trip to a reception center, the teacher's opportunity to engage in actions designed to alleviate "role strain" (e.g., calling home to check upon family members) could be severely hampered, if not foreclosed, thereby adding to the possibility that role abandonment might occur.

In the circumstances, however, we need not resolve this second matter. In providing its explanation in LBP-88-33 of why our remand of the LOA issue in ALAB-924 was not cause to delay the effectiveness of its November 1989 decision authorizing issuance of a full-power license for Seabrook, the Licensing Board considered the issue of whether the "bus escort" activity of teachers was necessary for effective emergency response and concluded that it was not.[156] In appraising this Licensing Board explanation in its own decision on whether to make the Board's full-power authorization immediately effective, the Commission declared:

> [I]t does not appear that there is any reason why the evacuation of schoolchildren will be delayed or will not occur even if *no* teachers or other school personnel agree to accompany the children on evacuation buses. The Licensing Board noted that Richard Strome, then New Hampshire's Director of Emergency Management, while hoping that teachers would participate, stated that their participation is not "key to the process" and observed that schoolchildren usually get on school buses without assistance and that teachers do not regularly travel on the buses.[157]

Made, as it is, in the context of the Commission's immediate effectiveness decision, this observation is not binding upon

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[156] 30 NRC 656, 660, *supplementing* LBP-89-32, 30 NRC 375 (1989), *appeals pending*.

[157] CLI-90-3, 31 NRC 219, 234-35 (1990) (emphasis in original), *petition for review pending sub nom. Massachusetts* v. *NRC*, Nos. 90-1132, 90-1218 (D.C. Cir. filed Mar. 7 and Apr. 27, 1990).

us.[158] Indeed, the *need* for teachers as bus escorts was not an issue the parties placed before us in any of the matters raised on appeal concerning LBP-88-32 or in a motion to reconsider our determination concerning LOAs for school personnel in ALAB-924. Nonetheless, in the present context of our review of intervenors' appeals regarding human behavior issues, we cannot disregard the record evidence identified by the Licensing Board and the Commission indicating that, insofar as the NHRERP provides for teacher escorts on evacuation buses, those provisions *are not necessary* for the safety of the schoolchildren involved.[159] The State planners' conclusion in this regard is apparently based upon their not unreasonable judgment that bus drivers will be able to transport the students safely to reception centers, where the students will be cared for and supervised by the personnel already assigned to staff the centers until such time as they are reunited with their parents or guardians.[160] Because State planning officials have concluded that the role of teachers as bus escorts is largely superfluous, we perceive no purpose in considering further whether teachers will fulfill those roles under the plan.[161]

We thus conclude that, with respect to those duties necessary to provide for the protection of schoolchildren in the event of a radiological emergency, the Licensing Board was correct in its determination that under the NHRERP, teacher role abandonment is not a significant concern.

III. EVACUATION TIME ESTIMATES

Under NRC emergency planning requirements, planning officials are required to develop "[g]uidelines for the choice of

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[158] *See* 10 C.F.R. § 2.764(g).

[159] *See* Tr. 3388-89.

[160] *Cf. Shoreham*, 23 NRC at 152 (evacuation of schoolchildren to be accomplished by bus drivers).

[161] We would suggest, however, that, so as not to mislead those involved in or relying upon emergency response efforts by school personnel, State planners may wish to revise the plan to reflect their judgment about the precatory nature of teacher participation as escorts on student buses.

protective actions during an emergency."[162] To this end, planners also are to "provide an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations."[163] NUREG-0654 guidance on fulfilling these requirements provides that an evacuation time estimate (ETE) should be prepared "based on a dynamic analysis (time-motion study under various conditions) for the [EPZ]."[164] As we have noted previously, "the [ETE] analysis is intended to reflect a realistic time for completing an evacuation."[165] With this information in hand, "emergency coordinators can then decide what protective actions (e.g., sheltering or evacuation) are warranted in the circumstances, if a radiological emergency occurs."[166] The ETE is, however, only a planning tool; Commission regulations establish no particular time limits for completing an EPZ evacuation.[167]

For emergency planning purposes, the New Hampshire EPZ has been divided into seven Emergency Response Planning Areas (ERPAs).[168] In turn, ten regions, each consisting of one or more ERPAs, have been established on the basis of direction (i.e., north, south, or west) and spatial extent (i.e., beach area, two miles, five miles, EPZ boundary) relative to the Seabrook Station.[169] In accordance with NUREG-0654 guidance, the NHRERP sets forth a series of ETEs intended to cover different evacuation scenarios. The scenarios encompass different

[162] 10 C.F.R. § 50.47(b)(10).

[163] *Id.* Part 50, App. E, § IV.

[164] NUREG-0654 Criterion II.J.10.*l*. Further detailed guidance on how to prepare an ETE is provided in Appendix 4 to NUREG-0654.

[165] *Philadelphia Electric Co.* (Limerick Generating Station, Units 1 and 2), ALAB-845, 24 NRC 220, 244 (1986), *see also Limerick*, ALAB-836, 23 NRC 479, 486 (1986).

[166] *Limerick*, ALAB-845, 24 NRC at 244, *see also Limerick*, ALAB-836, 23 NRC at 486.

[167] *See Limerick*, ALAB-845, 24 NRC at 244; *Limerick*, ALAB-836, 23 NRC at 486.

[168] NHRERP (Seabrook Station Evacuation Time Study), Vol. 6, at 10-5.

[169] *Id.* at 10-3.

different seasons (summer or off-season), days (weekend or mid-week), times (mid-day, evening, or all day) and weather conditions (good, rain, or snow).[170] For each scenario, the ETE for each region was calculated using the Interactive Dynamic Network Evaluation (I-DYNEV), a computer model developed by government consultants.[171]

The Licensing Board concluded that the ETEs put forth by applicants, as modified by the Board on the basis of the record established during the hearing on intervenors' ETE contentions, were sufficiently accurate to fulfill all applicable requirements.[172] Before us, intervenors MassAG and NECNP assert that several deficiencies exist in the ETEs that were generated for the New Hampshire portion of the Seabrook EPZ. Principally, they contend that (1) traffic management efforts have failed to recognize and compensate for the effects upon evacuation times of delayed staffing of the seventy traffic control posts (TCPs) for the New Hampshire EPZ, and (2) the number of vehicles at the beach on a summer "peak" day was inaccurately determined, thereby affecting the accuracy of the ETEs for the beach population.[173] Although we find no basis for the first assertion of error, we conclude that some additional modification is necessary for ETEs involving the beach area.

A. The Licensing Board recognized that in a fast-breaking accident there might not be sufficient time to have State or local police personnel at all TCPs before an evacuation is to

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[170] *Id. at* 10-2.

[171] *Id.* at 10-1, 10-6 to -11; *see* LBP-88-32, 28 NRC at 781.

[172] LBP-88-32, 28 NRC at 803-04.

[173] MassAG Brief at 29-32, NECNP Brief at 27-41. Before the Licensing Board, intervenors also raised a concern about whether sufficient consideration had been given to the effect upon the ETEs of New Hampshire EPZ residents who commute to work outside the EPZ but who, in returning home during an evacuation, would create additional traffic congestion. The Licensing Board deferred resolution of this issue pending further submissions by the parties. *See* LBP-88-32, 28 NRC at 789. The Board subsequently addressed the matter in its November 1989 final partial initial decision on emergency planning matters. *See* LBP-89-32, 30 NRC at 423-34.

begin.[174] In this regard, the focus was on the New Hampshire State Police, which will provide personnel for at least forty percent of the TCPs.[175] In testimony before the Board, New Hampshire State Police Captain Sheldon Sullivan described the mobilization of State Police both from Troop A in Rockingham County, where the Seabrook plant is located, and from other troops across the rest of the state.[176] Captain Sullivan estimated that from the time State Police troopers are told to respond within the EPZ, four troopers could reach TCPs within fifteen minutes, three more officers could respond within the next forty-five minutes, and in the next hour six more troopers would arrive at TCPs.[177] Thereafter, additional troopers would arrive so that within five hours after notification, approximately 100 troopers would be on duty.[178] Captain Sullivan also stated that ultimately 185 New Hampshire uniformed troopers would be available for service within the EPZ.[179]

In an effort to address intervenors' concerns about the effect of delayed staffing upon ETEs, particularly in light of the delays about which Captain Sullivan testified, applicants made three different I-DYNEV computer calculations that

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[174] LBP-88-32, 28 NRC at 789. In addition to the 70 TCPs designed to facilitate traffic flow out of the EPZ, police also are to staff 19 access control points (ACPs) to restrict entry into the EPZ. *Id.* at 790. As the Licensing Board noted, for the issue of ETE accuracy, the importance of ACPs is that they take up available police resources. *Ibid.*

[175] *Id.* at 790-91. In the event of local nonparticipation, the number of State Police needed for traffic control would be somewhat higher. *See infra* note 192.

[176] *See* Tr. 4676, 4679-80, 4696. State-wide mobilization is necessary because planners called for the use of 48 troopers to staff TCPs and 26 State Police officers at ACPs. *See* LBP-88-32, 28 NRC at 791. At the time of applicants' personnel response survey, Troop A had only 36 troopers, of which 12 to 14 would be on active duty or on call at any given time. *See* Tr. 4676-78.

[177] Tr. 4714-15.

[178] Tr. 4715.

[179] The total figures cited by Captain Sullivan were as of August 1987, the time of the applicants' SPRA. Tr. 4729-30. Captain Sullivan stated that at the time he testified in November 1987, the number of uniformed officers had increased by 21. Tr. 4700, 4729-30. He also noted that the potential

assumed there would be late or no staffing of TCPs.[180] As detailed by the Licensing Board, for the first calculation, the applicants assumed that the important State Police-staffed TCP at the New Hampshire Route 51 overpass at Interstate 95 would not be manned for one hour after beach closure; that the TCP at the intersection of State Routes 1 and 101C would not be staffed by State Police until two hours after beach closure; and that a planned State Police TCP at Hampton Harbor Bridge to discourage traffic from traveling south from the Town of Hampton Beach toward the Town of Seabrook would not be established for two hours.[181] The second calculation was made to determine the sensitivity of the ETE model to a two-hour delay in the staffing of the Route 51 overpass TCP.[182] For the third calculation, it was assumed that none of the capacity-enhancing TCPs in the Massachusetts portion of the EPZ was established.[183] The first calculations showed a twenty-minute decrease in the ETE for the entire EPZ.[184] The second calculation showed an ETE increase of five minutes.[185] An ETE increase of two hours resulted from the third calculation.[186] The Licensing Board concluded that these additional sensitivity calculations adequately reflected the effect of delayed staffing upon ETEs.[187].

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existed for calling into service an additional 40 State Police officers who normally serve as plain clothes detectives as well as 3300 officers from surrounding states who, in accordance with the New England State Police Compact, are to respond at the request of the Governor of New Hampshire. Tr. 4698-99, 4730-31.

[180] *See* Applicants' Direct Testimony No. 7, at 44-48.

[181] LBP-88-32, 28 NRC at 792.

[182] *Ibid.*

[183] *Ibid.*

[184] *Id.* at 793. The reason for this decrease is that permitting movement south over the Hampton Harbor Bridge expedites evacuation. *See* Applicants' Direct Testimony No. 7, at 47.

[185] LBP-88-32, 28 NRC at 793.

[186] *Ibid.*

[187] *Id.* at 794.

Before us, the MassAG does not directly contest the Board's findings concerning the effects of delayed staffing on ETEs.[188] Instead, as he did before the Licensing Board, the MassAG uses the applicants' admission that staffing delays may occur in some circumstances as a springboard to question TCP staffing adequacy. The Licensing Board rejected this line of attack, declaring that (1) New Hampshire had committed all of its available State Police resources to evacuation traffic control and was not required to hire more State troopers in anticipation of a radiological emergency, and (2) the MassAG's argument improperly isolated a particular, rapidly developing accident sequence during the peak summer population and involving the entire EPZ in order to attack overall planning adequacy.[189] The MassAG asserts the Board's analysis is wrong on both counts. Applicants and the staff both support the Licensing Board's analysis.

To begin with, the MassAG questions the Licensing Board's conclusion that all available New Hampshire State Police have been committed to evacuation traffic control, pointing to the fact that, of the 185 uniformed officers identified as "available" in the applicants' SPRA, only seventy-four are committed to traffic control.[190] He also suggests that the Licensing Board's declaration that no further officers need be hired was tantamount to an improper holding that by providing all

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[188] Citing a Licensing Board finding in its discussion of "Human Behavior in Emergencies" that the I-DYNEV model "utilized a 15% reduction in capacity factor on all roads to account for driver uncertainty and short-term disruptions which can disrupt capacity," *id.* at 747, intervenor NECNP asserts that this finding is, in fact, related to TCP staffing delays and that the 15% figure is too low to account for such delays. NECNP Brief at 36-38. As applicants point out, Applicants Brief at 24, NECNP's argument concerning the validity of the 15% figure is misplaced because its premise that this finding by the Board was intended to address delays arising from TCP staffing is wrong. If this figure was intended to address the issue of TCP delays, there seemingly would be no reason to conduct the additional I-DYNEV runs described *supra*.

[189] LBP-88-32, 28 NRC at 795.

[190] MassAG Brief at 29-30.

available resources, the State has undertaken its "best efforts" and thus need do no more.

These arguments miss the mark. While the MassAG correctly states that only seventy-four of the 185 uniformed officers have been "committed" to traffic control, this ultimately is irrelevant to the issue of whether this staffing level is adequate. The MassAG has not called our attention to any record evidence establishing either that more than seventy-four officers are needed to service the TCPs now designated under the NHRERP or that additional TCPs (staffed by additional officers) should be designated at particular locations.[191] Moreover, the MassAG's argument fails to account for the fact that all but twelve of the "available" officers who are not committed to controlling traffic (i.e., nearly 100 officers) have not been given other specific assignments in the SPRA and thus presumably could undertake traffic control duties if called upon to do so.[192]

The real issue, and the one the MassAG seemingly attempts to frame by his reference to "best efforts," is whether there has

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[191] Although asserting that traffic control staffing in the New Hampshire portion of the EPZ generally is inadequate because of the congested traffic flow throughout the EPZ, as proof of this inadequate staffing the MassAG references only the lack of traffic guides along a one-mile stretch of road in Hampton Beach. *Id.* at 15. He fails to point to any evidence in the record establishing where more staffing is needed for this (or any other) particular stretch of roadway, much less how much more staffing would be required. Given that the number of state troopers who can be called upon for traffic control is well in excess of what is presently utilized under the NHRERP, *see* Applicants' Exh. 1-A; *supra* note 179 and accompanying text, even accepting the MassAG's premise that traffic congestion and the disorderly driver behavior it will foster mandate some additional traffic control, *see* MassAG Brief at 19, 20, it is not apparent that there are insufficient resources to provide the necessary personnel. In any event, as we have indicated previously, the Licensing Board acted appropriately in rejecting the MassAG's central thesis that driver behavior will seriously impair evacuation efforts under the existing traffic control scheme. *See supra* pp. 391-98.

[192] *See* Applicants' Exh. 1-2; *supra* note 179 and accompanying text. The number of officers without formal assignments could be further decreased by 11 if it is necessary for the State Police to compensate for local nonparticipation, *see* Applicants' Exh. 1, at 3-7, but this still would leave almost 90 extra officers available.

been an appropriate allocation of these otherwise adequate State Police resources. The Licensing Board dismissed the MassAG's challenge by citing the lack of any regulatory requirement that the State recruit more troopers. Relative to the MassAG's concern, however, an equally compelling answer, consistent with the Commission's guidance in its *San Onofre* decision,[193] is that there is no regulatory requirement that the State permanently assign existing police resources to a particular location simply to ensure that there are no staffing delays in the event of a radiological emergency. Put another way, simply because additional police resources will be needed in a particular location in the event of a radiological emergency and will require some period of time to arrive, this potential for delay does not require that permanent police staffing in that area be "beefed up" to a degree beyond what is otherwise required to provide adequate law enforcement protection under normal circumstances. We thus find no basis for intervenor's challenge.

The MassAG also contends that an incorrect premise undergirds the Board's determination that his arguments violate the general principle that emergency planning not be based upon an isolated accident sequence. Citing the Board's findings that the delay problems he envisions will arise only for a particular accident scenario (i.e., a fast-breaking accident) with a particular beach population size (i.e., peak) and a particular type of evacuation (i.e., one involving the entire EPZ), the MassAG contends that because the staffing delays can occur in other instances as well, the Board was incorrect in resolving his concerns on this basis.[194]

Assuming that the MassAG is correct in this regard, which is not at all apparent,[195] nonetheless this does not lead us to a

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[193] *Southern California Edison Co.* (San Onofre Nuclear Generating Station, Units 2 and 3), CLI-83-10, 17 NRC 528, 536 (1983), *rev'd in part on other grounds, GUARD* v. *NRC*, 753 F.2d 1144 (D.C. Cir. 1985).

[194] MassAG Brief at 30-32.

[195] For instance, although the MassAG asserts that staffing delay problems will occur in instances other than fast-breaking accidents, *ibid.*, because the

different conclusion about the adequacy of the State's traffic management plan. Planners have recognized that the potential for delayed TCP staffing exists and have compensated for this in the NHRERP by prioritizing TCPs.[196] As a result, once a determination is made to staff the TCPs, available officers are to be assigned first to those TCPs that are considered most critical to expediting traffic flow.[197] It also is apparent, as FEMA witnesses made clear, that in any emergency situation responding officials must take into account the state of existing resources, including mobilization status, in making protective

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NHRERP calls for State troopers to be mobilized to staff TCPs at the Alert stage of any radiological emergency prior to any evacuation actually being *ordered*, *see supra* note 31, seemingly only in those instances in which a radiological emergency progresses in less than five hours from an Alert stage to a General Emergency stage, when an evacuation would be ordered, is there any serious concern about delays resulting from traffic control staffing.

The MassAG nonetheless tries to minimize the positive impact of this early mobilization policy, declaring there still would be substantial traffic congestion and delays because the beaches also may be closed at the Alert Stage, putting many additional cars on the highway. MassAG Brief at 32. His argument, however, fails to recognize that even if an early beach closing results in traffic congestion, this in no way has an adverse impact on radiological safety for the general public unless the accident is a relatively fast-breaking one. Although inconvenient, the delays that people may encounter leaving the area because of either traffic congestion or TCP staffing delays due to early mobilization at the Alert stage have no adverse effect in terms of radiological safety, at that early response stage plant conditions should not have an impact on the radiological safety of persons outside the plant's boundary. *See* ALAB-924, 30 NRC at 363.

[196] NHRERP, Vol. 6 (Seabrook Station Evacuation Time Study), at 7-2.

[197] *See* Tr. 4704-05, 4731. The MassAG complains that, as of the time of his appeal, there was no staffing sequence for TCPs. MassAG Brief at 31 n.22. A draft staffing sequence was in existence at the time of the hearing and was provided to intervenors. Tr. 5801-02, 5804. Moreover, as is apparent from the State of New Hampshire Traffic Management Manual accompanying the NHRERP, of which we take official notice, *see* 10 C.F.R. § 2.743(i), implementing details have been finalized. *See* State of New Hampshire Traffic Management Manual § 2.0 (Rev. 2, Dec. 1989) [hereinafter NHTMM].

In this regard, we note that for the New Hampshire TCPs asserted by staff witness Dr. Urbanik to be the most critical in terms of their capacity to enhance vehicle flow, *see* Tr. 7722-23 (referencing TCPs A-HB-03, A-HB-04, and D-HA-02), under the NHTMM they have been given top staffing priority in the event of a general evacuation, *see* NHTMM at 2.1-3.

action determinations.[198] If a particular accident sequence requires that protective action be taken when State and local emergency response efforts are not fully mobilized, officials would have to weigh whatever increased risks may be attendant upon taking a particular protective action (such as an evacuation) without having the planned response personnel in place. Thereafter, they would make a determination about what is the best course in the circumstances. By incorporating this sensible approach,[199] in conjunction with assigning priorities to staffing, the NHRERP provides the requisite assurance that traffic control delays will not have an adverse impact on emergency response under the NHRERP.

NECNP also challenges the Licensing Board's conclusion regarding the effect of staffing delays on ETEs by questioning the assumption about the availability of the Hampton Harbor Bridge, which was incorporated in the supplemental I-DYNEV calculations, described above.[200] According to NECNP, by permitting evacuees to move south over the bridge, they are being allowed to move "closer" to the Seabrook facility.[201] As a result, permitting evacuation in this direction requires that the State make a choice involving "both pros and cons" and, therefore, involves a change that the State cannot be presumed to make.[202] There thus being no "assurance" that this "fix" will be put into place by planning officials, NECNP requests that we remand the matter for "further review by the State of New Hampshire."[203]

The State already has given further consideration to the "pros and cons" of TCP staffing at the bridge. It has assigned

[198] Tr. 4077-79. *See also* FEMA Pre-filed Testimony at 52 (capacity exists to implement protective actions such as sheltering without local response organizations being fully staffed).

[199] *See* NHRERP, Vol. 4, at F-36.

[200] *See supra* note 181 and accompanying text.

[201] NECNP Brief at 38-40. The Licensing Board described this as a movement "not very much" in the direction of the Seabrook facility. LBP-88-32, 28 NRC at 795. NECNP asserts it involves moving traffic perhaps eight- or nine-tenths of a mile closer to the plant. NECNP Brief at 40.

[202] *Id.* at 39.

[203] *Id.* at 40.

that TCP a staffing priority that would allow for movement to the south for a period of up to several hours if an evacuation starts before full TCP staffing has been accomplished by State troopers.[204] The State thus has done what NECNP seeks, i.e., studied the problem and made a determination about what is the proper course to implement. In the circumstances, a remand for further consideration would serve no useful purpose.[205]

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[204] In the NHTMM, during the peak beach season of May 15 to September 15, State Police staffing for the Hampton Bridge TCP (which is designated in the NHTMM as TCP "A-HB-01," *see* NHTMM at 3.0-68 to -69) is given 16th or 17th priority. NHTMM at 2.1-3 to -8, 2.1-10 to -16. On the basis of Captain Sullivan's testimony concerning availability of State troopers, *see supra* notes 177-78 and accompanying text, this would mean that in a fast-breaking accident, beach traffic would not be discouraged from evacuating south across the bridge for at least the first two hours following an order to staff the TCPs. Indeed, in the case of a beach-only evacuation, the Hampton Bridge TCP will not be established. *See* NHTMM at 2.1-9.

[205] NECNP also opines that there may be some question whether the State should choose to allow traffic to move south, as both intervenors' and applicants' experts agreed it would if staffing for the bridge TCP was delayed. *See* LBP-88-32, 28 NRC at 794. As support for this assertion, NECNP declares that evidence on beach vehicle counts "suggests" that vehicle distribution is not a constant. NECNP Brief at 39. Further, NECNP hypothesizes that allowing movement south might be improper if the beach traffic distribution is heavier to the south at the time an evacuation is ordered. *Ibid.* Of course, in order to have this distribution information, it is necessary, as NECNP also urges, to establish an extensive "real-time" traffic monitoring system for the Seabrook beach area. *Id.* at 39 n.22.

NECNP asserts that, because evacuation times are so highly variable depending upon traffic flow, weather, and other factors, to aid decision-makers in arriving at appropriate determinations about the necessary protective actions in any circumstances, applicants and/or the State of New Hampshire should be required to establish a computerized traffic monitoring system that can be used to compute "real-time" ETEs on the basis of actual traffic counts in the beach area and elsewhere. Putting aside the fact that there is no requirements in NUREG-0654 for such an ETE calculation system, *see* Tr. 7742, and the fact that the ETEs provided in the NHRERP, which encompass a number of different traffic and weather scenarios, are within the scope of NUREG-0654 guidance on ETE calculation, we are not convinced on the basis of the record before us that such a system would have the benefits intervenor ascribes to it. As was noted by Dr. Thomas Urbanik, the staff's expert witness on traffic management matters whose qualifications are discussed more fully *infra* at note 220, the imperfections in current computer

B.1. Another matter in controversy before the Licensing Board was the question of the proper calculation of the ETE for evacuation of the beach population within the EPZ on sunny summer weekends, the time when the beach population would be at its greatest.[206] The focus of the parties' dispute was the appropriate figure to assign for the number of vehicles occupying the beach area, an important input for calculating the ETEs for the beach population.[207] Ultimately the Licensing Board determined that a figure of 31,000 vehicles was appropriate for the beach population ETE calculations.[208] Intervenor NECNP disputes the validity of this figure, arguing that intervenors' evidence, and the Board's own statements, establish that the "peak" vehicle count used for ETE calculations should be significantly in excess of that amount.[209]

NUREG-0654 guidance on ETE development states that, in producing ETEs, planners should include "[e]stimates of transient populations . . . such as peak tourist volumes."[210] According to NECNP, "peak tourist volume" for the Seabrook beach area should be calculated based upon the assumption that all real estate available for parking will be fully utilized.[211] Using this "maximum available parking space" approach, which NECNP asserts was utilized by applicants initially,[212] inter-

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models create a real concern about the practicality of intervenor's suggestion. Tr. 7743. Nonetheless, we do commend to the attention of State planning officials Dr. Urbanik's comments on the effectiveness of increased traffic monitoring as a tool for providing a better generic understanding of beach traffic patterns that may contribute ultimately to enhancement of the existing ETEs. Tr. 7738-39.

[206] In the ETEs for the NHRERP, this is denoted as Scenario 1 for Region 1. *See NHRERP, Vol. 6, at 10-2 to -3.*

[207] Because the NHRERP ETEs are based essentially upon vehicle trips, the number of vehicles in the beach area that must be evacuated, rather than the number of people in the vehicles, becomes a central factor. *See* LBP-88-32, 28 NRC at 784.

[208] *Id.* at 802.

[209] NECNP Brief at 27-36.

[210] NUREG-0654, App. 4, at 4-3.

[211] *See* NECNP Brief at 28.

[212] *Ibid.* (citing NHRERP, Vol. 6, at 10-15).

venors argued before the Licensing Board that, based on their aerial photographs taken on July 5 and 19, 1987, the figure of 38,825 vehicles should be used for ETE calculations.[213]

In contrast, applicants claimed that an appropriate method for calculating "peak tourist volume" was to identify the number of vehicles in the beach area on a "representative peak day." According to applicants, this method is based upon an actual count of vehicles and unfilled but delineated noncurb parking spaces in the beach area on a midsummer weekend day with "good" beach weather, during the midafternoon period when there was likely to be maximum traffic.[214] Before the Board, applicants proffered July 18, 1987, as a "representative" peak day and contended that, at the early afternoon time (approximately 2 p.m.) at which beach population is at its greatest, there were 29,293 vehicles at the beach.[215]

The Licensing Board accepted both applicants' assertion that July 18 was a representative peak day and their parked vehicle count for that date; however, the Board also declared that evidence in the record supported increasing the vehicle population by approximately 1500 to include vehicles estimated by NRC staff expert Dr. Thomas Urbanik to be in transit (rather than parked).[216] This count, apparently rounded to the nearest thousand vehicles, produced the figure of 31,000 vehicles accepted by the Licensing Board as the number for a "reasonably expectable peak occupancy."[217] NECNP now

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[213] *See* LBP-88-32, 28 NRC at 799. This figure of 38,825 can be broken down into 24,664 vehicles in the New Hampshire portion of the EPZ and 14,161 in the Massachusetts portion of the EPZ. *See* ALAB-924, 30 NRC at 362 n.124.

[214] Applicants' Direct Testimony No. 7, at 30-31; Tr. 7395.

[215] *See* LBP-88-32, 28 NRC at 797-98. Because the aerial photographs used by applicants' consultant to count parked cars were taken between noon and 1:20 p.m., Tr. 5884-85, the actual vehicle count of 26,850 was increased to compensate for the increase in beach traffic that would be expected to occur toward 2 p.m., when beach traffic is generally acknowledged to be at its height. Applicants' Direct Testimony No. 7, at 30-38.

[216] LBP-88-32, 28 NRC at 798.

[217] *Id.* at 798, 802.

asserts that the Licensing Board's acceptance of applicants' methodology (and the resulting vehicle count) rather than intervenors' "maximum available parking space" approach was without foundation or explanation and, therefore, was arbitrary and capricious.[218] Applicants and the staff contest this assertion, arguing that the evidence before the Board fully supported its determination.[219] Ascertaining the size of a vehicle population so potentially variable as that at a popular beach in the peak summer season is, at best, a difficult endeavor. We find, however, that the Licensing Board's conclusions about the appropriate method in this instance are reasonable and supported by the record.

In accepting applicants' proposed vehicle estimates in lieu of intervenors' figures based on the maximum available parking, the Licensing Board relied upon the testimony of staff traffic planning expert, Dr. Urbanik.[220] Dr. Urbanik rejected the intervenors' view that an ETE should be computed on the assumption that all available parking spaces might be filled. In his expert opinion, filling all parking capacity was an occurrence that likely would never come to pass because of the dynamics of the beach area parking situation.[221] According to Dr. Urbanik, in any parking system in which there is vehicle turnover, which there clearly would be at the beach as people come and go, there will always be vacant spaces. Thus, the number of parking spaces that might be available is not a true indicator of the actual number that will be occupied at any

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[218] NECNP Brief at 29.

[219] Applicants Brief at 22-3; NRC Staff Brief at 63-64.

[220] LBP-88-32, 28 NRC at 798. Dr. Urbanik, who has a master's degree in transportation engineering and a doctorate in civil engineering, taught transportation engineering and planning, traffic engineering, and highway design at Texas A&M University and was transportation operations program manager at the University's Transportation Research Institute at the time he testified. Curriculum Vitae of Thomas Urbanik II, fol. Tr. 7372. He has testified on ETE-related matters on behalf of the NRC staff in at least five other NRC licensing proceedings. *Ibid.*

[221] Tr. 7385-88.

one time.[222] In lieu of intervenors' maximum parking capacity methodology, Dr. Urbanik supported the applicants' approach whereby the appropriate "peak" vehicle figure is that having a "reasonable expectation to occur on a hot summer day."[223]

As Dr. Urbanik's testimony suggests, the weakness in intervenors' "maximum available parking space" method is that, failing to provide any concrete link between the existence of parking space and the reality of how many vehicles actually occupy that space during a "peak" period, this approach tends to overestimate the number of vehicles involved. Illustrative of this flaw is intervenors' failure to establish any instance when 38,000 plus vehicles have been at the beach area on a summer weekend day. Instead, as the Licensing Board correctly pointed out, in their various attempts to count vehicles neither applicants not intervenors have tallied more than 27,000 vehicles actually at the beach.[224] The Licensing Board thus acted reasonably in declining to adopt a method that, through likely overestimation of the vehicle count, would deprive the ETE of much of its practical utility.

By the same token, because it does not contain this potential for overestimation, we find no error in the Licensing Board's acceptance of applicants' method of determining the "reasonably expectable occupancy." There clearly are fluctuations in beach traffic from one midsummer weekend day to the next. Nonetheless, based principally as it is upon the more tangible foundation of an actual vehicle count rather than estimates of how much parking is available, applicants' method seemingly provides response officials with an ETE derived from much more realistic (and thus less likely to be overestimated) information.[225] Moreover, as Dr. Urbanik also suggested, because

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[222] Dr. Urbanik testified that because of the turnover dynamic, between 10% and 20% of the overall parking capacity will not be utilized even if the traffic flow into the parking area is at a maximum. Tr. 7387-88.

[223] Tr. 7394.

[224] LBP-88-32, 28 NRC at 802.

[225] The Licensing Board recognized that the vehicle figure produced from applicants' July 18 survey likely was not the "peak of the peaks." *Id.* at 798.

traffic flow dynamics tend to establish a finite range within which vehicles can enter the beach area during the late-morning to early afternoon "peak period,"[226] if the "representative" day is appropriately chosen the resulting vehicle count does not foster a diametric concern about substantial underestimation. Accordingly, NUREG-0654's guidance to calculate ETEs on the basis of "peak tourist volumes" is well served by the use of the "reasonable expectable occupancy" method and we find the Licensing Board committed no error in determining that applicants properly could utilize it.

Intervenor NECNP also questions whether the Licensing Board acted correctly in accepting July 18, 1987, as the representative peak day.[227] This determination likewise is supported by the record. As the Board noted, the evidence showed that on this midsummer day the weather was sunny and warm with temperatures in the mid-80s.[228] Media reports from various sources indicated there was a heat wave with record beach crowds during this period.[229] Applicants' planning officials also testified that data from traffic counters located on

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It suggested that this number would be in the range of 35,000 to 36,000 vehicles, based upon a 90% occupancy of the nearly 39,000 parking spaces identified by intervenors. *Id.* at 801. This "peak of the peaks" figure, however, suffers from the same lack of a verified factual basis as the parking space estimate upon which it is based. *See supra* pp. 416-17. While informative, as the Licensing Board suggested, *see* LBP-88-32, 28 NRC at 798, 803, it also is less probative than the figures generated by applicants' survey of the actual beach vehicle population.

[226] *See* Tr. 7396-401.

[227] NECNP Brief at 29.

[228] Applicants' Direct Testimony No. 7, at 27; Tr. 6083. As was noted by Gordon R. Derman, the president of the company that conducted the aerial photographs survey for applicants, although an airplane and crew were ready initially to take the beach photographs on the weekend of July 4, 1987, the survey was not conducted then because, after consultation with applicants' planning personnel, it was determined that the weather conditions were not optical for having a large beach population and obtaining good photographs. Tr. 5869. Conditions also were not optimal on the next weekend, so it was not until the third weekend in July, when weather conditions were appropriate, that the photographs were taken. Tr. 5870-72.

[229] Tr. 6075.

beach routes were similar to those recorded by counters operated on a peak traffic day in 1983 when traffic measurements were being taken.[230] This evidence amply demonstrates that this July weekend day was a "representative peak day" during which beach traffic was within the general range that could be expected during the heights of the beach season.

2. Completing its challenge to the Licensing Board's determination on the appropriate beach vehicle count, intervenor NECNP questions the Board's endorsement of a vehicle population of 31,000 for that date.[231] In addition to adopting applicants' figure of 29,293 observed parked vehicles and requiring that an additional 1500 vehicles be included to compensate for vehicles estimated to be in transit on the roadways (a requirement with which applicants do not quarrel), the Licensing Board also judged that there would have been approximately 2000 vehicles in covered parking spaces that were not accounted for in the applicants' figures.[232] NECNP declares that in its final figure of 31,000 vehicles, the Licensing Board nonetheless erred because it failed to include a substantial portion of these hidden vehicles.

We too are troubled by the Licensing Board's action in this regard. In its decision, the Board declared:

> Intervenors presented *convincing unrebutted* testimony based on field observations that there are in excess of 2200 parking spaces in the EPZ beach areas which are not observable in vertical aerial photos because they are in under-building parking areas, garages, and carports. It is not unreasonable to assume that on reasonably busy beach days 90%, or about 2000, of these vehicle spaces would be occupied. Together, the 29,300 parked vehicles seen, the 1500 vehicles seen on the roads, and 2000 more that likely were parked in spaces hidden from view, total

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[230] Applicants' Direct Testimony No. 7, at 27; Tr. 6082-84.

[231] NECNP Brief at 30-31.

[232] LBP-88-32, 28 NRC at 801-02.

> 32,800 vehicles that were likely present in the beach areas on July 18, 1987.[233]

Yet, in subsequently adopting the figure of 31,000, the Board provided no specific explanation of why it did not include the entire number of "obstructed view" vehicles described above.[234]

As the Licensing Board recognized, ETEs "should be as accurate as reasonably achievable under the state of the art, but with due consideration also given to their predicted use."[235] We recognize that ETEs for the beach population are less critical in the case of Seabrook because, in most instances, the protective action of choice will be evacuation.[236] Nevertheless, given the Licensing Board's determination, in consonance with the suggestion of staff witness Dr. Urbanik, that it would include 1500 vehicles in transit that were not reflected in applicants' initial vehicle figure, and the Board's categorization of the intervenors' evidence on hidden vehicles as "convincing" and "unrebutted," its unexplained exclusion of the additional hidden vehicles is an omission that must be rectified.[237] We will, therefore, remand this matter with the direction that, in addition to the vehicles in transit required by the Board to be included,[238] the Board should direct the applicants to incorpo-

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[233] *Id.* at 801 (emphasis added and citations omitted).

[234] *See id.* at 802.

[235] *Id.* at 778.

[236] *See* ALAB-924, 30 NRC at 363.

[237] Although Dr. Urbanik expressed some doubts about the validity of intervenors' figures for hidden parking, Tr. 7513-14, the Licensing Board's characterization of intervenors' evidence as "unrebutted" leads us to conclude that as the trier of fact it did not find Dr. Urbanik's testimony on this score persuasive.

[238] NECNP also complains that the Licensing Board erred when, instead of directing the State to adopt an amended set of ETEs, it merely directed that revised ETEs be submitted by applicants to the State. NECNP Brief at 40-41. The Licensing Board's directive is consistent with 10 C.F.R. Part 50, App. E, § IV, and NUREG-0654 Criterion II.J.8, which impose upon an applicant the task of ETE preparation. Moreover, because the guidance in NUREG-0654 suggests that there is some independent State responsibility to incorpo-

rate within the appropriate ETE calculations the number of vehicles hidden from aerial observation as set forth in the Board's findings in ¶9.120 of its decision.[239]

Because full-power authorization for the Seabrook Station has been made effective,[240] in remanding this matter we must consider the impact of our action upon that authorization.[241] In accordance with 10 C.F.R. § 50.47(c)(1), we find that the existing licensing authorization need not be vitiated. As we

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rate these ETEs, NUREG-0654 Criterion II.J.10.*l*-m, we find no practical basis for a concern that the ETEs revised by the applicants will not be incorporated into the NHRERP by the State. In fact, the State has revised the ETEs in the NHRERP as a result of the Licensing Board's directive in LBP-88-32, *see infra* note 239, and we have no reason to believe that a similar result will not obtain here.

[239] Before us, NECNP also challenges a "confirmatory" ETE calculation made by the Licensing Board based upon "vehicle clearance rates," which the Board found in "good agreement" with intervenor videotape evidence on summer weekend vehicular traffic congestion leaving the beach areas. NECNP Brief at 31-33. As the applicants note, although the Board's opinion did contain misstatements concerning the vehicle per minute rate (686 and 687 rather than 68.6 and 68.7), the final result from its calculations was mathematically correct. Applicants Brief at 23 n.5. Given the Board's direction that ETE revisions by applicants were necessary, it is not apparent why it provided its own calculations based upon a method other than the applicants' accepted I-DYNEV model. Nonetheless, we note that the Board's ETE calculation of seven hours and 32 minutes is close to the revised I-DYNEV calculation of seven hours and 35 minutes resulting from the calculations undertaken to implement the Licensing Board's directive to add the vehicles in transit. *Compare* LBP-88-32, 28 NRC at 802 *with* NHRERP, Seabrook Station Evacuation Time Study, at 10-23 (Rev. 2, Dec. 1989) (Scenario 1/Region 1). Nor do we find, as NECNP asserts, that this time estimate is "illogical" in light of intervenors' videotape evidence. NECNP Brief at 31-33. The anecdotal nature of that evidence makes it of limited use as a tool for calculating or comparing projected ETEs. In any event, to the degree it is useful to make comparisons for ETE purposes on the basis of data other than the I-DYNEV calculations, we find much more compelling the fact that the vehicle figure that applicants are to utilize under our remand agrees roughly with the total vehicle number of 33,000 that intervenors' witness Dr. Thomas Adler put forth as the appropriate figure for beach vehicles on July 18, 1987. *See* Tr. 7341-42.

[240] CLI-90-3, 31 NRC at 223.

[241] *Limerick*, ALAB-845, 24 NRC at 234; *Limerick*, ALAB-836, 23 NRC at 520, *see* CLI-90-3, 31 NRC at 230 & n.10.

noted previously, the use of evacuation as a protective action for the beach population in almost all instances substantially limits the possibility that the ETEs being recalculated will be utilized for their principal purpose of aiding in protective action decisionmaking.[242] Moreover, the additional calculations required to correct the ETE deficiency identified should not require significant time or resources to complete. The correction required need only be incorporated by applicants in additional I-DYNEV computer calculations and the results included in the NHRERP, all of which doubtless can be completed promptly.[243] Further, because the additional vehicles that must be considered amount to only about five percent of the total embodied in existing ETE calculations and ETE sensitivity to such a small incremental change does not appear great, we do not anticipate that the additional calculations will result in a profound change in the existing ETEs. Accordingly, given that the deficiency identified is not significant, no suspension of license effectiveness is necessary or appropriate.

IV. OTHER MATTERS

In addition to its challenges to the Licensing Board's findings in LBP-88-32, intervenor SAPL asserts that the Board erred in rejecting two of its contentions prior to hearing.[244] We disagree and affirm the Licensing Board's action in both instances. Further, in light of the Commission's statements in CLI-90-2 concerning emergency planning's status as an "adequate protection" standard under AEA section 182, some further discussion is necessary regarding an intervenor claim that several aspects of the emergency response planning under the NHRERP fail to conform to this standard.

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[242] *See supra* note 236 and accompanying text.

[243] In this regard, we observe that before the Licensing Board intervenors apparently abandoned any challenge to the validity of the I-DYNEV computer program, *see* LBP-88-32, 28 NRC at 781, and have not questioned the efficacy of the program before us.

[244] SAPL Brief at 65-67.

A. With its Contention 4, SAPL sought to challenge the applicants' compliance with the requirement of 10 C.F.R. § 50.47(b)(12) that "[a]rrangements are made for medical services for contaminated injured individuals." Specifically, that contention stated:

> The New Hampshire State, local and host community plans fail to meet in adequate fashion the requirements that provisions be made for medical treatment of contaminated injured individuals as set forth at 10 C.F.R. § 50.47(b)(12) and NUREG-0654 II.L.1 and L.3.[245]

According to SAPL, because the statement of basis accompanying its contention demonstrated that the local hospitals listed in the NHRERP as capable of treating "contaminated injured individuals" had inadequate capacity, the Licensing Board's threshold rejection of the contention improperly deprived it of the opportunity to litigate the factual issues surrounding this alleged deficiency.

In ruling on this contention,[246] the Licensing Board relied on a Commission policy statement issued in the wake of the decision of the United States Court of Appeals for the District of Columbia Circuit in *GUARD* v. *NRC*.[247] In *GUARD*, the court rejected the Commission's interpretation of section 50.47 (b)(12) in the *San Onofre* licensing proceeding as requiring only the submission by an applicant of a listing of medical facilities in the vicinity of a reactor site capable of treating contaminated injured individuals and remanded the matter for further proceedings.[248] In a May 1985 interim policy statement, the Commission declared that, during the period in which it would decide how to respond to the court's remand,

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[245] [SAPL's] Second Supplemental Petition for Leave to Intervene (Feb. 21, 1986) at 3-4 [hereinafter SAPL's Second Supplemental Petition].

[246] *See* Memorandum and Order of Apr. 29, 1986, at 83 (unpublished).

[247] 753 F.2d 1144 (D.C. Cir. 1985), *rev'g in part San Onofre*, 17 NRC 528 (1983).

[248] *Id.* at 1146, 1149-50.

licensing boards could find an applicant was entitled to an operating license if the applicant (1) complied with the Commission's pre-*GUARD* interpretation of section 50.47(b)(12) as requiring only a list of medical facilities, and (2) committed to full compliance with whatever further requirements might be imposed by the Commission's response to GUARD.[249] Noting that the applicants had submitted a letter committing to full compliance with the Commission's response to the *GUARD* remand, the Licensing Board concluded that in line with the policy statement the SAPL contention must be rejected.[250]

Before us, SAPL makes no challenge to the Commission's policy statement. It is apparent, however, that at the time the contention was rejected, in compliance with the Commission's pre-*GUARD* guidance on the measures necessary to comply with section 50.47(b)(12), there was a list in the NHRERP of local medical facilities capable of administering care to contaminated injured individuals.[251] In addition, applicants had provided the Licensing Board with evidence of their commitment to comply fully with any Commission requirements that might be imposed as a result of its response to the *GUARD* remand.[252] Thus, under the conditions established by the Commission's policy statement and unchallenged by SAPL, the Licensing Board's action dismissing SAPL Contention 4 was appropriate.[253]

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[249] 50 Fed. Reg. 20,892, 20,893 (1985). *See also* 51 Fed. Reg. 32,904 (1986) (declaring that 1985 policy guidance remains in effect until new guidance is issued, which was to be in November 1986). In its 1985 policy statement, the Commission indicated that an applicant that met these two conditions would be in compliance with 10 C.F.R. § 50.47(c)(1) and thus "entitled to [a] license condition[ed] o[n] full compliance with the Commission's response to the *GUARD* remand." 50 Fed. Reg. at 20,893 (footnote omitted).

[250] Memorandum and Order of Apr. 29, 1986, at 83.

[251] *See* SAPL's Second Supplemental Petition at 4 (citing NHRERP, Vol. 1. § 2.8 (Dec. 1985)).

[252] Letter from J. De Vincentis to V. Noonan (Mar. 12, 1986), fol. Tr. 2353.

[253] The Licensing Board's action in response to the policy statement did not necessarily foreclose intervenor SAPL from further pursuing the issue of applicants' compliance with section 50.47(b)(12). On November 13, 1986,

B. SAPL's other concern is with the Licensing Board's grant of applicants' motion for summary disposition of SAPL Contention 5. This contention, which challenged the adequacy of radiation monitoring planning, asserted:

> The New Hampshire State and local plans are deficient in that they do not ensure that there will be adequate personnel or the timely arrival of personnel trained in radiological monitoring in the plume exposure EPZ following a release or radiation from Seabrook Station. Neither is there assurance that monitoring can be carried on for the required time frame. Therefore, the requirements of 10 CFR § 50.47(a)(1), § 50.47(b)(1), § 50.47(b)(8), § 50.47 (b)(9), and NUREG-0654 II.I.7, I.8. and I.11. and II.A.4. are not met.[254]

In support of their May 20, 1986 summary disposition motion, applicants submitted affidavits from New Hampshire Division of Public Health Services (PHS) Director William T. Wallace, Jr., and James A. MacDonald, the Radiological Assessment Manager for the Seabrook Station.[255] On June 9, 1986, SAPL responded with a letter authored by its consultants Drs.

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after consultation with the NRC and in response to the *GUARD* decision. FEMA issued Guidance Memorandum MS-1, Medical Services, providing interpretation and clarification of section 50.47(b)(12) and associated guidance for inclusion in NUREG-0654. Thereafter, acting on applicants' commitment to carry out this guidance, revisions were made to the NHRERP that were determined by FEMA in December 1988 to conform with Guidance Memorandum MS-1. *See* App. Exh. 43D, at 113, 114, 138. SAPL made no attempt, however, in response to either the new regulatory guidance, the plan revisions, or FEMA's findings relative to the revisions, to present a new contention alleging any deficiencies in the NHRERP with regard to medical services for contaminated injured individuals.

[254] SAPL's Second Supplemental Petition, at 5.

[255] Applicants' Motion for Summary Disposition of SAPL Contention No. 5 and NECNP Contention RERP 10 (May 20, 1986), Affidavit of William T. Wallace, Jr. [hereinafter Wallace Affidavit]; *id.*, Affidavit of James A. MacDonald re SAPL Contention No. 5 and NECNP Contention RERP 10 [hereinafter MacDonald Affidavit].

Richard Piccioni, Nancy Eyler, and Steven Meshnick, supporting SAPL's opposition to applicants' motion.[256] Based on these filings, the Licensing Board concluded that there were no material facts at issue relative to SAPL Contention 5 and that applicants were entitled to summary disposition.[257]

SAPL assigns error to this ruling on the ground of the Licensing Board's purported failure to find that material factual issues existed despite the stated opinion of its "highly qualified" affiants that "actions taken by the State would occur too late to be effective."[258] This assertion, however, does not account for the totality of the information that was before the Licensing Board.

In his affidavit in support of applicants' motion, PHS Director Wallace declared that State monitoring teams would be available for deployment from the Incident Field Office within one and one-half hours from the declaration of an Alert.[259] Intervenors' affiants disputed whether the timing of this State response would be adequate to provide monitoring information necessary to make a timely protective action decision in the event of a fast-breaking accident.[260] They did not, however, challenge the validity of Director Wallace's statements in his affidavit that, prior to the arrival of DPHS monitoring teams, the State will base its assessment of accident conditions and any necessary protective response recommendations on results of monitoring and dose projections provided by the utility.[261] Nor did they address the statements of applicants' Radiological Assessment Manager MacDonald that, within sixty minutes after the declaration of an Alert, the util-

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[256] SAPL's Response to Applicants' Motion for Summary Disposition of SAPL Contentions 5, 7, 14 and 17 and Motion for Partial Summary Disposition of SAPL Contentions 18 and 25 (June 9,1986), Letter of Drs. Piccioni, Eyler, and Meshnick (June 9, 1986) [hereinafter Piccioni, Eyler, Meshnick Letter].

[257] Memorandum and Order of Nov. 4, 1986, at 17-2 (unpublished).

[258] SAPL Brief at 67.

[259] Wallace Affidavit at 2.

[260] Piccioni, Eyler, Meshnick Letter at 2.

[261] *Compare ibid. with* Wallace Affidavit at 2.

ity can deploy three field monitoring teams and, in any event, has the capability to deploy a monitoring team for the perimeter of the facility from the Seabrook Station control room immediately upon the declaration of an emergency.[262]

These statements by applicants' affiants demonstrate that the anticipated limited delay in deployment of State offsite monitoring teams will not impair significantly the ability of emergency response officials to obtain the information needed to make protective action determinations in a fast-breaking accident. Because SAPL failed to controvert (and thus effectively admitted) these material facts as established by applicants,[263] the Licensing Board properly granted summary disposition in applicants' favor on SAPL Contention 5.

C. As a final matter, based upon our study of the Commission's determination in CLI-90-2, which responded to a question we certified in ALAB-922 concerning the admission of certain MassAG testimony on dose reductions/dose consequences alleged to arise under the NHRERP in the event of certain accidents, we find some additional, albeit brief, explanation is necessary relative to a matter raised by intervenor MassAG. As we observed in ALAB-922, the MassAG has questioned whether several aspects of emergency planning under the NHRERP, most notably its provisions regarding sheltering and evacuation/ETEs, provide "adequate protection" under AEA section 182 and "reasonable assurance that adequate protective measures can and will be taken" under section 50.47 (a)(1).[264] With respect to these matters, the MassAG asserts that the plan (and the Licensing Board's assessment of the plan) generally reflects an improper "best efforts under the circumstances" approach rather than the careful consideration of the risk to the public health and safety that he contends the "adequate protection" standard of AEA section 182 (and the "reasonable assurance" standard of section 50.47(a)(1) require.

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[262] *Compare* Piccioni, Eyler, Meshnick Letter at 2 *with* MacDonald Affidavit at 1-2

[263] *See* 10 C.F.R. § 2.749(a).

[264] 30 NRC 247, 255 n.37 (1989).

In ALAB-922, we found it unnecessary to address this "best efforts" claim separately. We concluded that, like the testimony, it was anchored in the MassAG's premise that a risk/dose consequence analysis was required under AEA section 182.[265] Thereafter, in discussing intervenor arguments in support of admission of the testimony, we rejected the assertion that the testimony was admissible to show that the requisite "adequate protection" was not provided by the NHRERP, concluding that emergency planning was not subject to the first tier, "adequate protection" standard for which such a risk-based analysis might be appropriate, but rather was under the second tier, "extra-adequate protection" standard of AEA section 161.[266] In CLI-90-2 the Commission corrected our misapprehension in this regard.[267] This provides the Mass AG little solace, however, for the Commission's disposition of his testimony makes it apparent that his "best efforts" argument likewise is misdirected.

As the Commission made clear in CLI-90-2 in holding that the MassAG's dose reduction/dose consequence testimony was not admissible, although emergency planning is indeed an "adequate protetion" standard under AEA section 182, to determine whether an emergency plan provides "adequate protection," the plan must be assessed in terms of whether it meets the sixteen planning standards of section 50.47(b).[268] Even assuming that a "best efforts" standard is being improperly applied to emergency planning under the NHRERP, which is not apparent to us, intervenor nonetheless has failed to explain how this alleged deficiency has resulted in a plan that violates any of the sixteen specific planning standards in section 50.47(b).[269] Thus, in accord with the Commission's

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[265] *Ibid.*

[266] *Id.* at 256-57.

[267] 31 NRC at 210-13.

[268] *Id.* at 213, 217.

[269] The one exception in this regard is his assertion that the limited utilization of sheltering for the beach population in the NHRERP violates the requirement of section 50.47(b)(10) that a "range of protective actions have been developed," MassAG Brief at 72-75, an argument we already have rejected. *See* ALAB-924, 30 NRC at 367 n.164.

decision in CLI-90-2, we need not give this matter further consideration.[270]

Those portions of the Licensing Board's December 30, 1988 partial initial decision, LBP-32, 28 NRC 667, regarding "Response Personnel Adequacy," "Human Behavior in Emergencies," and "Evacuation Time Estimates (ETEs)," and unpublished Licensing Board rulings on SAPL Contentions 4 and 5 are *affirmed*, except that with respect to the Board's ruling on ETEs we *reverse* and *remand* for further calculations relative to the "hidden vehicles" described in ¶9.120 of LBP-88-32.

It is so ORDERED.

FOR THE APPEAL BOARD

BARBARA A. TOMPKINS
Secretary to the
Appeal Board

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[270] The Commission's determination in this regard likewise addresses SAPL's argument, *see* SAPL Brief at 15-18, that with respect to the adequacy of the NHRERP, the Licensing Board erred in failing to make an overall "reasonable assurance" finding under 10 C.F.R. § 50.47(a)(1). *Cf.* ALAB-922, 30 NRC at 255 n.36.

Contrary to his assertions, MassAG Brief at 85, the Licensing Board also properly rejected the MassAG's additional attempt to introduce a trunciated version of his dose reduction/dose consequences testimony in response to FEMA testimony on the beach population sheltering issue. Although the MassAG asserts that the FEMA testimony was itself based upon a dose consequences analysis, he provides no convincing grounds for overturning the Licensing Board's finding that the testimony was "manifestly without regard to dose consequences analysis." Tr. 11,134. Moreover, as the Commission's ruling in CLI-90-2 makes apparent, 31 NRC at 217, the Licensing Board was correct in its alternative conclusion that, even if FEMA's testimony was a dose consequence analysis, the proper course would be to exclude both the FEMA and MassAG testimony rather than to admit the MassAG's responsive testimony. Tr. 11,133. The Board found no reason to consider taking this step with respect to the FEMA testimony, however, because none of the parties offered a motion requesting that action. Tr. 11,133-34.

No. 90-1657

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In the Supreme Court of the United States

OCTOBER TERM, 1991

COMMONWEALTH OF MASSACHUSETTS, ET AL., PETITIONERS

v.

UNITED STATES NUCLEAR REGULATORY COMMISSION, ET AL.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF FOR THE FEDERAL RESPONDENTS IN OPPOSITION

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QUESTION PRESENTED

Whether the Nuclear Regulatory Commission properly construed its regulations to exclude from licensing hearings certain testimony about potential consequences of hypothetical radiological emergencies.

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BRIEF FOR THE FEDERAL RESPONDENTS IN OPPOSITION

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. (I) 1-129) is reported at 924 F.2d 311. The decisions of the Nuclear Regulatory Commission (Pet. App. (I) 130-201; Pet. App. (II) 1-140) are reported at 31 N.R.C. 197 and 31 N.R.C. 219.

JURISDICTION

The judgment of the court of appeals was entered on January 25, 1991. The petition for writ of certiorari was filed on April 25, 1991. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. The Nuclear Regulatory Commission (NRC) exercises "broad regulatory authority over the development of nuclear

energy." *Vermont Yankee Nuclear Power Corp.* v. *Natural Resources Defense Council, Inc.*, 435 U.S. 519, 526 (1978). See Atomic Energy Act of 1954, 42 U.S.C. 2011 *et seq.*; Energy Reorganization Act of 1974, 42 U.S.C. 5801 *et seq.* A utility company that wishes to construct a nuclear power plant must make detailed health, safety, and environmental submissions to the NRC staff, which reviews the submissions and participates as an independent party in the permitting and licensing process. The NRC's three-member Atomic Safety and Licensing Boards conduct adjudicatory hearings on contested issues. The three-member Atomic Safety and Licensing Appeal Board hears appeals from those decisions. The NRC Commissioners have discretion to undertake further review. See 10 C.F.R. Pt. 2.

The NRC requires that applicants for operating licenses provide detailed plans for coping with radiological emergencies on the plant site and for ensuring offsite emergency preparedness. 10 C.F.R. 50.34(b)(6)(v); 10 C.F.R. Pt. 50, App. E. In particular, the applicant must submit emergency response plans prepared by state and local governments whose jurisdictions lie within designated emergency planning zones surrounding the plant. 10 C.F.R. 50.33(g). In the case of full power licensing, the NRC has provided by regulation that emergency planning must provide "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 C.F.R. 50.47(a). After a required review by the Federal Emergency Management Agency, the NRC and its adjudicatory boards evaluate emergency plans under 16 planning standards promulgated by the Commission. 10 C.F.R. 50.47(b). Failure to meet these standards generally will result in the NRC's denying an operating license, but the NRC's regulations give the applicant an opportunity to demonstrate that the license should nevertheless issue where,

for example, the "deficiencies in the plans are not significant for the plant in question." 10 C.F.R. 50.47(c)(1).

2. In 1973, the Public Service Company of New Hampshire (PSCNH) applied for a construction permit to build a pressurized water nuclear reactor (known as the Seabrook Station) south of Portsmouth, New Hampshire, within a few miles of the Massachusetts border. As part of the licensing process for full power operations, the NRC's Atomic Safety and Licensing Board considered the adequacy of the New Hampshire Radiological Emergency Plan (NH Plan), which sets an emergency response plan for the Seabrook Station. In the course of the lengthy adjudicatory proceedings on the adequacy of the NH Plan, petitioner Massachusetts sought to introduce evidence of estimated dose consequences to segments of the public that might result from certain hypothesized accidents. The Licensing Board excluded the evidence on the ground that it was not relevant to review of response plans under the NRC's emergency planning rule. Pet. App. (I) 13-16.

Petitioners appealed the exclusion to the Atomic Safety and Licensing Appeal Board, which certified the question to the NRC. The NRC determined that the text of its emergency planning regulations, its rulemakings on emergency planning, and its adjudicatory decisions interpreting those regulations established that the adequacy of an offsite emergency plan is to be judged solely upon the basis of its conformity with the 16 planning standards set forth in 10 C.F.R. 50.47(b). Pet. App. (I) 130-201.[1] That

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[1] The NRC explained that "consideration of specific accident sequences and their potential dose consequences has been rendered unnecessary by the promulgation of generic guidance [the 16 mandatory standards] that incorporates and synthesizes data on a range of accidents and their consequences." Pet. App. (I) 190-191. The NRC pointed out that its regulatory approach achieves the goal of reducing dose consequences by requiring that the applicant demonstrate core planning of

same day, the NRC issued a decision authorizing the issuance of a full power license for the Seabrook Station, subject to further NRC review of certain licensing issues. Pet. App. (II) 1-140.

3. The court of appeals affirmed the NRC's authorization of Seabrook's full power license and specifically upheld the exclusion of Massachusetts' evidence on hypothesized accidents. Pet. App. (I) 1-129. The court recognized that the scope of its review of the "final" agency action at issue here—the NRC's determination that the full power license could become immediately effective—was "exceedingly limited" and "properly confined to determining whether the Commission abused its discretion." *Id.* at 43-44. It ruled that the NRC's interpretation of its emergency planning regulation is consistent with the language of the regulation and not otherwise contrary to law. *Id.* at 86. The court had "little difficulty" in concluding that Massachusetts' evidence was properly excluded as inconsistent with the NRC's regulatory methodology and standards for evaluating the adequacy of an emergency plan. *Id.* at 86-88. The court also noted that under NRC regulations petitioners might have proffered their evidence on particular accident scenarios to support a request for a waiver of the NRC's ordinary approach to emergency planning, but petitioners made no such request. *Id.* at 89-91.

ARGUMENT

Petitioners contend that the NRC misinterpreted and misapplied its emergency planning regulation, 10 C.F.R.

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implementable measures that will permit a flexible response to an actual accident. *Id.* at 188-197. It saw little value in judging the adequacy of a plan against predictions of possible consequences of specific hypothetical accident sequences—which can vary widely in nature, degree and release characteristics, and by differences in weather, time of year, and time of day. *Id.* at 189-193, 198-199.

50.47, in excluding Massachusetts' evidence concerning hypothesized nuclear accidents. The court of appeals correctly rejected that contention. The court of appeals' decision does not conflict with any decision of this Court or another court of appeals, nor does it otherwise warrant this Court's review.

1. Petitioners argue that provisions of the emergency planning rule stating that the NRC must find "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency," 10 C.F.R. 50.47(a)(1), require adjudication of Massachusetts' hypothetical dose reduction evidence. As the court of appeals recognized, however, "section 50.47 'make[s] no reference to specific conditions or accident sequences.'" Pet. App. (I) 59. Paragraph (a) states "the general goal of the regulatory scheme for emergency planning" and "'* * * sets forth a general standard that envisions judgment and implies discretion.'" *Ibid.* "Paragraph (b) then enumerates specific standards that a response plan 'must meet,' presumably for the purpose of achieving the goals of adequacy and implementability." *Ibid.* See *San Luis Obispo Mothers for Peace* v. *NRC*, 789 F.2d 26, 31, 43 (D.C. Cir.) (en banc), cert. denied, 479 U.S. 923 (1986). The court's conclusion is bolstered by other provisions of the emergency planning rule, see 10 C.F.R. 50.47(a)(2), (c)(1), and (d), which clearly indicate "that the core of the Commission's inquiry is compliance with the generic standards of paragraph (b)," Pet. App. (I) 60, and not an *ad hoc* evaluation of the plan's effectiveness in particular accident situations.[2]

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[2] The court of appeals properly recognized that the NRC's licensing decisions "are generally entitled to the highest judicial deference because of the unusually broad authority that Congress delegated to the agency under the Atomic Energy Act." Pet. App. (I) 54 (citing *Carstens* v. *NRC*,

2. Petitioners contend that the NRC's interpretation of its regulation is inconsistent with statements that the Commissioners made in 1980, during the emergency planning rulemaking. Pet. 15-19. As the court of appeals correctly found, the transcript does not contradict the NRC's interpretation of its rule. Pet. App. (I) 74-77. That part of the rulemaking record shows only that the "overall goal of emergency planning is reasonable and feasible dose reductions under the circumstances, a proposition reiterated in the Commission's ruling, see CLI-90-2, 31 N.R.C. at 216-217." *Id.* at 75. While petitioners are correct that the Commissioners chose to use the word "adequate" rather than "effective" or "appropriate" to describe the protection provided by the emergency planning regulation, they did not reveal any clear consensus on the precise meaning of "adequate," and they certainly did not mandate the testing of a specific plan against the projected dose reductions of specific accident scenarios.[3]

742 F.2d 1546, 1551 (D.C. Cir. 1984), cert. denied, 471 U.S. 1136 (1985)). Judicial deference is especially appropriate where the court reviews the agency's interpretation of its own regulations. See, *e.g.*, *Martin* v. *OSHRC*, 111 S. Ct. 1171, 1175 (1991). A reviewing court "will not overturn the Commission's interpretation of its own * * * rule 'unless that interpretation is plainly inconsistent with the language of the regulation.'" Pet. App. (I) 53 (quoting *San Luis Obispo Mothers for Peace* v. *NRC*, 789 F.2d at 30).

[3] Commissioner Bradford, who originally suggested a change to "effective" protective measures, acknowledged that "it is going to be very hard for anybody to extract from the four different sets of Commissioner remarks anything that they can use very definitively." Pet. App. (III) 84. He also recognized that a plan need not "be found inadequate just because you know that there are going to be some periods of time when you can't do that which you would really like to be able to do whether because of the conditions of the accident or the conditions of the weather." *Id.* at 73.

3. Petitioners also contend that the court of appeals has permitted the NRC to adopt and apply a "new rule." Pet. 30. That contention overlooks the consistency of the NRC's construction of its rule with other prior decisions and pronouncements. For example, the NRC justified the adoption of a 15-minute notice requirement in 1980 by explaining that "there may never be an accident requiring using the 15-minute notification capability," but "no single accident scenario should form the basis for choice of notification capability requirements," and "[e]mergency plans must be developed that will have the flexibility to ensure response to a wide spectrum of accidents." 45 Fed. Reg. 55,402, 55,407 (1980). Similarly, in amending its emergency planning regulation in 1987, the Commission stated that "emergency plans are evaluated for adequacy without reference to numerical dose reductions which might be accomplished." 52 Fed. Reg. 42,078, 42,085 (1987).[4]

4. Petitioners suggest that the NRC's 1980 Authorization Act, see Act of June 30, 1980, Pub. L. No. 96-295, § 109, 94 Stat. 783-785, directed the NRC to test an emergency plan against projected dose consequences of particular hypothetical scenarios. Pet. 12-15. As the court of appeals explained, the Act required the NRC to issue standards for emergency response plans and to provide that compliance with such plans was a condition for an operating license, but Congress "left to the NRC's discretion the

[4] By the same token, there is no merit to petitioners' contention that the NRC's interpretation is entitled to diminished deference by virtue of the supposed change in NRC's position. Pet. 31-33. The cases that petitioners cite in support of that contention—*Arizona Grocery Co.* v. *Atchison, T. & S.F. Ry.*, 284 U.S. 370 (1932); *Immigration and Naturalization Service* v. *Cardoza-Fonseca*, 480 U.S. 421, 446 n.30 (1987); and *Batterton* v. *Francis*, 432 U.S. 416, 425 n.9 (1977)—are inapposite where, as here, the agency has followed a consistent course.

specific requirements of emergency planning." Pet. App. (I) 66. See *Id.* at 63-66. The NRC's emergency planning regulation fulfilled that duty.

5. The NRC's reliance upon compliance with the 16 planning standards, while excluding dependence upon projected consequences of specific accident sequences, is a reasonable approach to planning for emergencies that covers a wide spectrum of probabilities and consequences. Petitioners criticize that approach on the ground that the NRC's interpretation involves nothing more than a *pro forma* checklist and "does not provide reasonable assurance of any level of public protection." Pet. 24 n.6. The court of appeals found, however, that "[f]ar from applying an uncritical checklist methodology, the Licensing and Appeal Boards exhibited a reasoned evaluation of the adequacy and implementability of the plan's compliance with the paragraph (b) standards." Pet. App. (I) 84-85.[5] The NRC has properly exercised its responsibility for assuring the adequacy of emergency planning in connection with the Seabrook Station, and petitioners' objections raise no issue warranting this Court's review.

[5] As the court of appeals noted, the Licensing Board examined numerous specific issues as to the adequacy of Seabrook's offsite emergency plans, including, for example, the accuracy of a survey to identify persons with special transportation needs and the accuracy of evacuation time estimates for advanced life support patients in hospitals. Pet. App. (I) 17-22. Indeed, the record in this case includes hundreds of pages of adjudicatory decisions on dozens of litigated issues regarding compliance with the emergency planning regulations.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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COMMONWEALTH OF MASSACHUSETTS
SEACOAST ANTI POLLUTION LEAGUE,
NEW ENGLAND COALITION ON
NUCLEAR POLLUTION
Petitioners,

v.

NUCLEAR REGULATORY COMMISSION, et al.
Respondents.

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The Commonwealth of Massachusetts, Seacoast Anti Pollution League, and New England Coalition on Nuclear Pollution ("Petitioners") reply to the Brief For The Federal Respondents In Opposition submitted by the United States and the Nuclear Regulatory Commission (collectively, "Respondents" or "NRC") and to the Brief In Opposition Of Respondent, Public Service Company of New Hampshire ("PSC").

1. In its response, the NRC artfully avoids addressing Petitioners' fundamental contention that the agency violated its 1980 emergency planning rule by authorizing Seabrook to operate at full power and by declaring that any proposed nuclear power plant in this country may operate in the complete absence of a site-specific judgment that

the emergency plans will effectively protect the public in a radiological emergency. Instead, Respondents offer an alternative question which focuses solely upon the NRC's evidentiary ruling that excluded Petitioners' testimony of radiation dose consequences under certain accident scenarios. Respondents' Brief at I. The NRC's failure to consider Petitioners' particular dose consequence evidence, however, is only a compelling symptom of the NRC's more fundamental infirmity: the failure to comply with its 1980 emergency planning rule. 10 C.F.R.50.47(a)(1). In contradiction of that rule, the NRC has never determined whether emergency planning for Seabrook will in fact protect the public; and the agency no longer intends to conduct such

a site-specific review for other nuclear power plants. Respondents' Brief at 3 and n.1 (emergency plans need only comply with generic standards). Therefore, the decision by this Court to grant certiorari is of significant national importance in order to prevent any future reactors from proceeding to full power in the absence of a determination that the emergency plans will actually work. Petition at 32.[1/]

1/ Cf. SAPL v. NRC, 690 F.2d 1025 (D.C. Cir. 1982). The Court of Appeals permitted the NRC, during its construction permit proceedings for Seabrook, to defer consideration of the site-specific public risk factors only because the agency represented that these concerns would be fully addressed during the full power licensing proceedings. "These factors include the population density around the Seabrook site, the feasibility of developing a notification system for the Seabrook EPZ, estimates of evacuation times for the Seabrook EPZ, and the availability of a full review of these factors at the

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2. Citing discussion by the Court of Appeals interpreting the regulatory scheme for licensing, Respondents state that the NRC's new generic rule "is a reasonable approach to planning for emergencies. . ." Respondents' Brief at 8. Even assuming that the NRC originally had discretion to adopt a generic licensing scheme, the agency did not have discretion in 1990 to overturn in effect its 1980 regulation requiring a site-specific review of plan effectiveness. Petition at 31-32; EEOC v. Shell Oil Co., 466 U.S. 54, 67 (1984), citing United States v. Nixon, 418 U.S. 683, 695-696 (1974). This

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operating license stage." SAPL at 1032 (emphasis added). Not only does the NRC's new generic rule totally ignore all of these specific risk factors as part of the licensing decision, but Respondents do not even refer to the SAPL case in their brief.

"reasonable approach" to emergency plan approval upheld by the Court of Appeals now provides that defects in emergency planning, no matter how great a threat to public safety, can never be an "operating license blocker." App. Vol. I at 88-89, 924 F.2d at 330; PSC Brief at 4. This approach clearly contradicts the NRC's intent when it enacted the emergency planning rule in 1980, following the accident at Three Mile Island, in response to a Congressional mandate. App. Vol. II at 158 (1980 Authorization Act); App. Vol. III at 43-44, 49-50, 54 (rulemaking transcript); SAPL at 1030 ("if . . . the infeasibility of EPZ evacuation renders it impossible for PSC to provide the requisite 'reasonable assurance,' the

operating license will not be granted".)[2/]

3. Respondents contend that the NRC's new emergency planning rule is entitled to substantial deference because of "the consistency of the NRC's construction of its rule with other prior decisions and pronouncements." Respondents' Brief at 7. Respondents, however, cannot and do not cite a single line, in more than one hundred pages of the 1980 official rulemaking transcript, App. Vol. III, or in any NRC pronouncement over the ten years following that rulemaking, stating that

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2/ PSC suggests that a rule waiver could protect the public by providing heightened scrutiny for particular planning problems. PSC Brief at 7. It is of little comfort to the public to review site specific risk factors through a rule waiver when, in the end, even significant and unresolved threats to public safety will not prevent licensing. See also Petition at 32, n.7.

compliance with the generic "b standards", in and of itself, is sufficient to demonstrate the "adequate protective measures" mandated by 10 C.F.R. §50.47 (a)(1).[3/]

Indeed, the official rulemaking transcript is replete with discussion by the Commissioners that approvable emergency plans must actually protect the public in light of site-specific factors. Petition at 16-17.[4/] The NRC

3/ The two quotations cited by Respondents are unavailing. Respondents' Brief at 7. The first merely states the truism that emergency plans must have "flexibility," while the second, issued by new Commission personnel in 1987, says nothing about the intent of the rule when enacted in 1980. Apparently these citations are the best Respondents can offer to show prior "consistency" with the Commission's new generic rule announced in 1990. Yet even these citations do not mention the "b standards."

4/ These factors include weather, App. Vol. III at 43, 54; crowds of evacuees, Id. at 49; heavily populated areas, Id.

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confirmed this position in this very case in 1982, Petition at 19 citing SAPL, and again in 1987, when the NRC's own expert agency on off-site emergency planning, FEMA, correctly interpreted the regulatory scheme to conclude that Seabrook should not operate because the emergency plans were ineffective and thousands of people likely would die or suffer injury in a nuclear accident. Petition at 13, 20-21.

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at 59; "normal warning times," Id. at 54; or otherwise "what you would expect to prevail during normal or even somewhat less that normal conditions" at the site, Id. at 73. Conspicuously, PSC never mentions the rulemaking transcript. The NRC, in defending its generic rule, merely offers limited citation for the unremarkable proposition that emergency plans need not assure a level of zero risk to the public. Respondents' Brief at 6, n.3. In response to the NRC's additional suggestion of ambiguity in the rulemaking transcript, Petititioners simply urge the Court to review the document. App. Vol. III.

The Court of Appeals, therefore, erred by giving undue deference to the NRC's new position, which contradicts the agency's longstanding rule that, as a condition of licensing, emergency plans must actually work in light of the specific risk factors at a site. Petition at 33 and cases cited there.

4. PSC claims that the question presented is "whether Petitioners' methodology for determining [emergency plan] adequacy should be followed as opposed to that selected by the NRC." PSC Brief at 5. This is a mischaracterization of Petitioners' position and serves only to distort the real issue presented herein. Contrary to the misstatement of PSC, the issue here is whether the NRC has violated its own 1980 emergency planning rule.

PSC then seizes upon an argument that it did not raise in the Court of Appeals and that the NRC itself has declined to adopt before this Court. PSC alleges that Petitioners did not appeal a decision by the NRC Appeal Board that is necessary for Court review. PSC Brief at 4-5. Without question, the Court of Appeals found sufficient "finality" for the present appeal with respect to the NRC's immediate effectiveness decision, which allowed start-up of the reactor pending completion of intra-agency appellate review of certain remaining issues raised in the Seabrook litigation. App. Vol. I at 46; 924 F.2d at 322. The Court also ruled that, because the NRC's decision to exclude Petitioners' dose consequence evidence and by implication

all site-specific risk factors as irrelevant to licensing was so linked to the start-up decision, that ruling is also appealable. App. Vol. I at 48-49, 924 F.2d at 323. No other NRC decisions on Seabrook, including the one cited by PSC, are appealable at this time. App. Vol. I at 46, 924 F.2d at 322. Nor need they be. The NRC has finally articulated its erroneous standard for emergency plan approval and, based on that standard, has authorized full power operation at Seabrook. The issues raised by Petitioners, therefore, are now properly before this Court for review. Id.

5. PSC argues that the emergency planning standard is not a significant issue since Seabrook is the last plant "in the NRC pipeline that raises

substantial emergency planning issues." PSC Brief at 6. This is little comfort to the tens of thousands on the Seabrook beaches. Nor does the NRC, which is advocating for a new generation of reactors, offer any support for PSC's speculative claim that no future reactor will pose significant emergency planning problems.[5/]

5/ The NRC also will soon consider applications for relicensing aging nuclear plants. Whether these facilities may be subject to the NRC's current safety standards, including emergency planning, remains unclear at this time.

Conclusion

Petititioners respectfully request that their petition for a writ of certiorari be granted.

Respectfully submitted,

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